THE BUILDER

VOL. XCVI.—No. 3440. JANUARY 9, 1909.

Contents.

	PAGE
PROVINCIAL ARCHITECTS AND REGISTRATION	27
THE "CONSERVATOIRE DES ARTS ET MÉTIERS," PARIS	28
THE ROYAL ACADEMY LOAN EXHIBITION	29
NOTES	30
SOME AUSTRALIAN AND NEW ZEALAND TIMBERS.—II	32
COLCHESTER TECHNICAL INSTITUTE	33
A PROVINCIAL VIEW OF THE QUESTION OF REGISTRATION	34
ABBOTT'S HOSPITAL, GUILDFORD	36
EXHIBITIONS	37
THE CONCRETE INSTITUTE	37
ARCHITECTURAL SOCIETIES	37
BOOK RECEIVED	37
MEETINGS	38
ILLUSTRATIONS:—	
ST. JOHN THE EVANGELIST CHURCH, WESTMINSTER	38
DESIGN FOR FAÇADE OF A CLUB IN FERRO-CONCRETE	40
ALL SAINTS' CHURCH, BEDFORD	40
SCHOOLS, MIDDLETON	40
PRIVATE BILLS IN PARLIAMENT	40
LEGAL COLUMN	41
ENGINEERING SOCIETIES	42
CORRESPONDENCE:—	
THE LATE MR. GRUNING	43
AUSTRALIAN TIMBERS	43
CUBICAL EXTENT OF BUILDINGS	43
ROYAL WARRANT HOLDERS	43
PROJECTED NEW BUILDINGS IN THE PROVINCES	43
THE ENGINEERING TRADE	44
COMMERCIAL PROPERTY DEALINGS, 1908	44
LONDON BOROUGH COUNCILS	44
OBITUARY	44
GENERAL BUILDING NEWS	45
STAINED GLASS AND DECORATION	45
APPOINTMENTS	45
SANITARY AND ENGINEERING NEWS	45
MISCELLANEOUS	46
PRICES CURRENT	46
LIST OF COMPETITIONS, CONTRACTS, ETC., OPEN	47
TENDERS	49

Illustrations.

LATE RENAISSANCE CHURCHES OF LONDON.—I. ST. JOHN THE EVANGELIST, WESTMINSTER. FROM A DRAWING BY MR. J. QUEKETT.

"BUILDER" COMPETITION FOR A FAÇADE FOR A CLUB IN FERRO-CONCRETE. SECOND PRIZE. BY MR. J. W. HEPBURN, A.R.I.B.A.

PROPOSED NEW CHURCH OF ALL SAINTS, BEDFORD. SIR ARTHUR BLOMFIELD & SONS AND MR. G. P. ALLEN, JOINT ARCHITECTS.

ELEMENTARY SCHOOLS, MIDDLETON. MESSRS. EDGAR WOOD, A.R.I.B.A., AND J. H. SELLERS, ARCHITECTS.

Illustrations in Text.

	PAGE
SKETCHES AT THE "CONSERVATOIRE DES ARTS ET MÉTIERS," PARIS:— FIGS. 1 TO 6	28
ABBOTT'S HOSPITAL, GUILDFORD	36
PLAN OF ST. JOHN'S CHURCH, WESTMINSTER. MEASURED AND DRAWN BY MR. A. WYATT PAPWORTH	38
"BUILDER" COMPETITION FOR A FAÇADE FOR A CLUB IN FERRO-CONCRETE. SECOND PRIZE. BY MR. J. W. HEPBURN, A.R.I.B.A. GENERAL ELEVATION	39

Provincial Architects and Registration.

WE print in another column a considerable portion of a paper recently read before the Liverpool Architectural Society, by Mr. H. Lionel Thornely, on the subject of the registration of architects. The Hon. Secretary of the Liverpool Society informs us that the paper met with the approval of his Society and that it may be taken to represent the opinion of Liverpool architects on the subject (this of course is only his statement, for which we are not responsible); and as the reader of the paper practises in Plymouth, we presume it represents the Plymouth view also, and that in fact it may be taken to be a fair representation of the views of a considerable proportion of architects practising in the provinces, who, for some reasons which it is not difficult to understand, seem to be more united in favour of the measure than the London architects. Architects practising out of London are less in touch with the Institute, and seem to consider (wrongly, as we shall show reason to think) that it is of less consequence to them than to London architects; and they consider, apparently, that it is they who are more particularly subject to injury by the intrusion of self-styled architects who have no proper claim to the title. Whether this is really so we cannot say; but that seems to be their view. We have therefore printed the main portion of the argument of Mr. Thornely's paper, partly to give an expression of what we take to be the provincial view of the subject, partly because we do not wish the paper to pass without some comment, more especially as reference is made in it to opinions which have been expressed in our columns.

Mr. Thornely's is a very ably written paper, and though we have heard all the arguments in it before, we do not know that we have before seen them so well put. He makes the usual answer to the objection that architecture is an art, and therefore cannot be examined in as Law or Medicine can—viz.: that architecture is also concerned with a great many subjects, such as construction, lighting, heating, ventilation, etc., which are entirely practical, and that therefore it is desirable that the public who employ architects should have some means of knowing that they are really competent to deal with such problems. This is true up to a certain point; but what none of the advocates of registration who use this argument seem to perceive is, that Art is a great deal more than one element in architecture; it is the element *par excellence*, without which architecture is hardly worth consideration. Registration is proposed by its advocates as a national movement, which is, as they tell us, to raise the status of architects and the standard of architecture in this country. Now it may be safely asserted that *the value of its national architecture to a nation consists entirely in the artistic element in architecture.* Take away that, and it is a mere question of housing, more or less complicated, on a larger or smaller scale. Take, as a concrete instance, the Houses of Parliament, one of the finest modern buildings in the world; far finer than, unfortunately, most Englishmen recognise. Were that building to be erected now, some practical details in it, especially in connexion with ventilation, would probably be better arranged for; we doubt if the planning could be much improved. But supposing the Houses of Parliament to be erected now, with all our present knowledge and resources in regard to heating and ventilation, so that it should be a perfect building in regard to every internal convenience, but without any architectural beauty at all; mere walls to enclose it and a roof to cover it in; what would then be its value to the nation? Absolutely nothing. It is now a national possession of which we are (or should be) proud; it would in the case supposed be merely a comfortable housing for Peers and Commons engaged in the work of legislation, and no one would enter it or go near it who was not obliged to do so on business. It is the Art in the building that is everything, as far as national architecture is concerned; without that, as already observed, it is mere housing. And no scheme of registration can do anything to produce or to raise the art of architecture. It may ensure a certain knowledge of practical details, and may be claimed to be a protection to the public in that sense; and it may also be to some extent a protection to the professional man in preventing the practically incompetent man from taking away his work; and the latter, we are inclined to think, is really at the bottom of the agitation in favour of it. We are not disposed to undervalue either point; but we think both might by this time have been provided for in a much better manner, and that it is the fault of the architects themselves, or a large number of them, that it has not been.

How is it that the engineering profession, which is not complicated by any question of art—which is solely occupied with construction—how is it that they do not demand a Registration Bill? If the protection of the public is to be considered, it is ten times more necessary in connexion with railway bridges and viaducts than in connexion with architecture; and the most difficult constructional problem that an architect has to face is almost simple in comparison with that of carrying out such a structure as

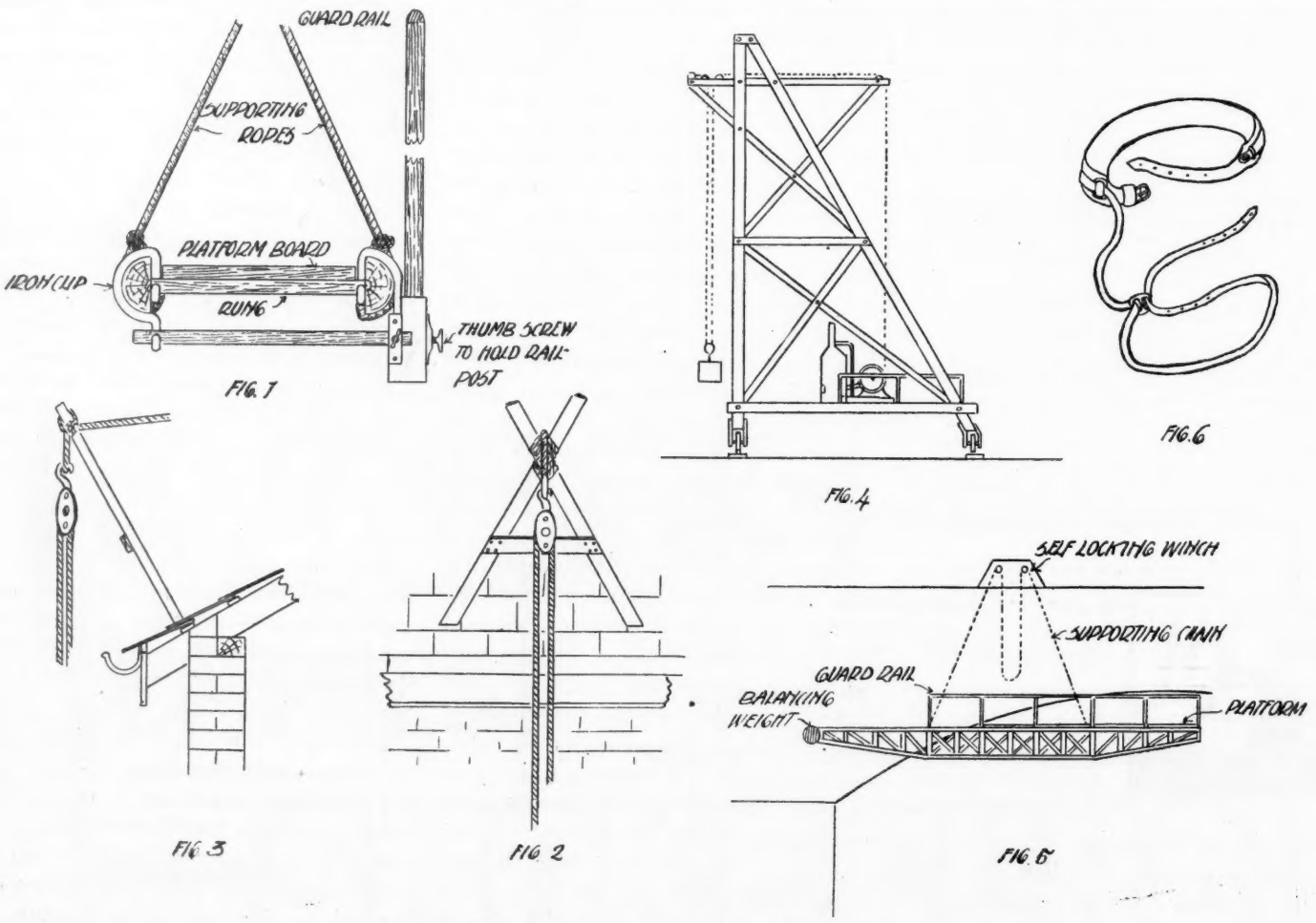
the Forth Bridge. There are plenty of people who with little warrant for the title call themselves "engineer," but the fact does not seem to trouble the Institution of Civil Engineers. Mr. Thornely quotes our argument in regard to eminent sculptors who are unmoved by seeing the word "sculptor" on a monument-mason's notice-board, and replies that that is not a parallel case, as sculptors are not concerned with construction. Then what has he to say to the case of the engineers, who are concerned with construction and nothing else? That question seems to be always evaded, and we have never seen an answer to it. We will give our own. It is because the engineers are a united body; they all know what they want (which one may admit it is easier to know in engineering than in architecture); and they are loyal to their representative central body. The consequence is that the Institution of Civil Engineers is in such a powerful position that it is almost a necessary object with an engineer who wishes to take a good place in the profession to belong to it. Consequently, the mere influence of the Institution is sufficient to keep the profession respected. The architects, on the contrary, are divided into parties, each of which thinks the taste of the others to be wrong; and they do not support their central representative body, or what would be their representative body if they would allow it to be so. On the contrary, a considerable proportion of architects seem to take a positive pleasure in girding at the Institute, picking holes in its management, and misrepresenting its intentions. The first portion of Mr. Thornely's paper contained a good deal of this kind of carping at the Institute, which does not merit such treatment; and that is the reason we declined to print the whole of it; we thought his remarks on this head in bad taste and uncalled for. And then it is urged that the Institute cannot properly protect the profession in the way that the Registration Bill would, because such a large proportion of the architects of the country do not belong to it. This is really the most absurd arguing in a circle. It practically amounts to this: "Many of us do not belong to the Institute because, practising in the provinces, we see no benefit to ourselves from it;" and then: "The Institute cannot adequately protect the profession because so many of us do not belong to it." Why do they not?

Our point is that if architects had supported their representative body in the same way that engineers support theirs, the Institute of Architects would have had it in its power (and intended) to bring about a fencing of the profession from practically incompetent persons by the gradual influence of its own entrance examination, which might have eventually covered the whole ground had it received the cordial and unanimous support of the profession, which it has not received; and the end would have been gradually achieved without drastic measures and without the serious drawback which attends registration, and which even the most ardent registrationists are obliged to admit; viz., that the process must begin by hall-marking every architect now practising—good, bad, and indifferent—with the Government stamp. The evil of that cannot be denied; the only answer that can be made to it is that it only affects one generation, and will gradually work itself out. But if the Institute had been properly supported by the profession at large, all the good that registration can in a certain sense accomplish might have been accomplished without this serious drawback, and without inviting the Government to lay their hands on what is really an Art, and is only of national consequence or value in so far as it is an art.

There is one other point on which we imagine the favourers of registration are rather in the dark. They speak as if they were by this means to raise architects in public esteem. If they had heard some of the remarks and read some of the speeches we have heard or read from eminent men outside the profession who take an interest in Art, and the terms in which they spoke of the movement, the architects who support registration would perhaps be somewhat shaken in their belief that they are going to raise the architect in the estimation of public opinion—or at all events of the best public opinion.

THE "CONSERVATOIRE DES ARTS ET MÉTIERS," PARIS.

TO the technical student, no less than to the inventor, a visit to the Museum of Arts and Trades situated in the Rue St. Martin, Paris, affords opportunities of research which, whatever the range of the inquirer may be, will give ample reward as a result to any such undertaking. The building in which the exhibits are housed is, although the phrase sounds somewhat odd, a converted church. It was founded in 1060 by Henry I., when it was known



Sketche at the "Conservatoire des Arts et Métiers," Paris.

as the Priory St. Martin des Champs, and was restored and enlarged years ago by Vaudoyer. The exhibition, which consists largely of scientific and engineering models, is one of the finest in the world; no patent being granted by the French Office without a model being placed here for public inspection.

A library is attached, and contains about 200,000 volumes, chiefly relating to art and science. Lectures are also given on scientific, industrial, and similar subjects, but these are not open to the general public.

The wide scope of the museum will be understood when it is known that such varied exhibits as railway, hydraulic and other engines, silk carding and spinning models, heating and lighting apparatus, typographic, photographic and lithographic appliances, optical and acoustic instruments, a ceramic gallery, some efforts to solve the problem of aviation and electrical and chronometrical details are to be seen, in some instances at work.

The exhibition, as may be supposed, is divided into sections, the one of most interest to builders being the division in which are shown various appliances for the prevention of accidents of work, and for the furtherance of industrial hygiene. Various patent scaffolds, with safety arrangements, are shown, the fencing of wood-working machinery is well illustrated, and the other exhibits suitable for notice in this paper comprise various guards and inventions for the safe and better working of machinery, protectors of the eyes and lungs from dust, improved tackle blocks, etc.

One of the most noticeable exhibits is M. Lièvre's ladder scaffolding, which, as it was recently noticed in our columns, does not need further detailed consideration.

Fig. 1 is a section of an extremely ingenious swinging scaffold. It consists of an ordinary ladder laid horizontally, the platform boards being placed on the rungs. It is obvious that this forms only a narrow platform, and, therefore, a guard-rail is necessary. To provide this iron clips are placed round the ladder sides, and they are connected on the under side by short timber pieces. This affords a sufficiently secure hold for a hollow metal block to be attached, and in this receptacle a post can be inserted to carry the rail. The whole forms an impromptu painter's boat, it being suspended by ropes from above.

In connexion with this and similar contrivances it is often found difficult, where the eaves do not sufficiently overhang the wall, to get sufficient clearance for the boats to hang free of the building. A method to overcome this is shown by Figs. 2 and 3, being a front and side view of the same arrangement. Although handy and portable, it cannot be entirely recommended, for, unless quite the proper angle was given, the feet might slip. In fact, this might occur in any case under the jars and shocks that always occur in carrying out building operations.

The Scotch derrick has no counterpart in France, but the necessity of a structure of this applicability is met by an erection, as shown by the sketch No. 4. It is built upon rails, in this respect being similar to some of the "Scotchmen" erected in Glasgow and neighbourhood. The inventor must, however, have been disappointed in the result of his efforts, for his idea does not seem to have attained any vogue. Still, for direct lifting by machinery along the front of a building it could serve a useful purpose.

Fig. 5 is a sketch of a travelling platform useful for the repair of railway and similar bridges. It can be raised or lowered as rendered necessary by the curve of the arch, so that sufficient head room is given to those on the platform, and they can be kept within easy reach of their work. There are two frames, one on each side of the bridge. They are connected by girders, which carry a platform.

Several appliances are also shown, similar to Fig. 6, to provide for the safety of painters, carpenters, and those engaged in a like manner. They consist of a safety belt, which can be passed round the workmen's body and otherwise fastened to any suitable place. The same idea has also been suggested in this country, but it suffers from the disadvantage of interfering with the freedom to work. It may be useful at times, say, for instance, to a painter engaged at one place for a considerable period, but it would be difficult to persuade the average workman, confident in his own powers, to use such a contrivance.

Some very excellent and ingenious examples of centring are shown, and detailed models of buildings in course of construction; but the exhibits here noted practically exhaust the patented appliances shown in connexion with scaffolding.

THE ROYAL ACADEMY LOAN EXHIBITION.

IT was understood some time since that the Royal Academy intended to make this winter's Loan Exhibition an exhibition of modern paintings; and it was naturally supposed that this would mean a collection of modern paintings selected by the Academy as representing what they considered best in recent art. It turns out that the exhibition consists in fact of the works acquired during his lifetime by a late wealthy collector. Thus the collection represents, not the taste and judgment of the Royal Academy but that of the late Mr. McCulloch. This is not quite the same thing, and the fact should be borne in mind in studying the collection. At the same time, we do not consider that there is any justice in the rather violent attacks which have been made on the Academy for their action. It is understood that it is an exceptional proceeding, and is not to imply any abandonment of the practice of holding annual exhibitions of the works of Old Masters. The occasion is exceptional; a large and in the main very valuable collection of pictures had been left by a collector who, if his taste was a little omnivorous, had at all events purchased a great number of really fine works; and the Royal Academy have enabled the public to see, with every advantage of space and hanging, a collection which there may never be any other opportunity of seeing as a whole. It is a most interesting exhibition, and we really cannot see what there is to complain of.

Leighton's "Daphnephoria" again occupies the same place on the walls in Gallery III. which it has at least twice occupied before, and looks as fine as ever; a great picture which fully keeps its reputation. Millais' "Sir Isumbras" is there too, having fully survived all the ridicule that was lavished upon its first appearance; Sir W. Orchardson's "The Young Duke," one of his most brilliant and successful works, it is also a pleasure to meet again; and Mr. Abbey's "Gloucester and Lady Anne," one of the most remarkable Shakspeare pictures ever painted. An exhibition which contains four such pictures as these can claim distinction on that ground alone; and Bouguereau's "Cupid and Psyche" represents at all events the best powers of his learned but cold and conventional art.

Pictures there certainly are which remind us of reputations and of a taste now vanished; Alexander Johnston's "The Press Gang" is hopelessly early Victorian, and Keeley Halswelle's and Karl Heffner's tea-tray landscapes with their steel-faced water surfaces will hardly be even "popular" now. It seems an odd thing, indeed, that the same collector who purchased such landscapes as Mr. Coutts Michie's "Harvest," and David Farquharson's "Full Moon and Springtide" and "Winter," should also have purchased the previously-named works, and one is led to ask whether the latter were purchased because the painters were Scotchmen. We should take it that this is at any rate the explanation of the purchase of no less than sixteen of Mr. David Murray's mostly ragged and ill-composed landscapes; but we are glad to find that the selection includes "Mangolds." If Mr. Murray had always painted like that his prominent place in the successive Academy exhibitions would be far better justified than it is. Landscape art means composition if it means anything. Among the landscapes Mr. Leader's "Mead and Stream," painted in 1893, and which we had forgotten, comes as an agreeable surprise; it is far less hard and has a finer quality of landscape effect in it than we can find in the majority of his exceedingly popular landscapes. Sea-painting is well represented by Mr. Hemy's "Time to Leave Her" and Henry Moore's "Breezy Day off the Isle of Wight"; and among what may be called foreground landscapes are two of the best of Mr. La Thangue's; also Mr. Geo. Clausen's "Going to Work," one of the best small works ever exhibited at the Academy; it was in one of the annual exhibitions a few years ago.

Among the works by foreign artists, some of which are poor concerns and bearing names little known to fame, there is M. Dagnan-Bouveret's beautiful picture of rural life "Dans la Forêt," exhibited some years ago at the Salon, and a small painting by Gérôme, "An Eastern Girl," which we remember many years ago at the French Gallery in Pall Mall East, and which is one of the best small works he ever painted.

As a whole the exhibition affords a great deal of matter both for enjoyment and for comparative criticism between different classes of painting with different

aims, and in this sense affords matter both for pleasure and instruction, and we cannot regret the decision of the Academy to make a special exhibition of this remarkable collection.

What we would now wish to see them do, however, is to recommence with the Old Masters where they began forty years ago. Latterly there has obviously been some difficulty in making up a loan collection of works by Old Masters not before exhibited, and we have had a good many things of which the interest was more historic than artistic. We have a vivid recollection of the glories of some of the earlier "Old Master" exhibitions, when a number of works by the greatest painters of the Renaissance could be seen together. After the lapse of forty years, it may surely be possible to obtain a second loan of the same works, and renew the prestige of the earlier Loan Exhibitions.

NOTES.

Limited Competitions.

THE Institute meeting on Monday was occupied for some time over a foolish piece of business, the sequel to an equally foolish one on January 7, 1907, on which occasion a resolution of the general meeting was passed to the effect that the Council should use any means it considered advisable to induce the promoters of Provincial competitions for small public buildings not to make such competitions "limited," but to throw them open to all; the reason apparently being that the younger architects wanted to have their chance in such competitions. The Council evidently (and wisely) did not consider that such attempted interference with the right of Corporations to manage their own business could be in any sense "advisable," and did nothing. The sequel to their inaction was the following resolution, brought forward on Monday by Mr. K. Gammell :—

"That the Council of the Royal Institute of British Architects shall forthwith give effect to the will of its Members, as expressed by the Resolution passed in Open Meeting on 7th January, 1907, whereby this Institute showed its disapproval of the principle of Limited Competitions for Public Buildings erected with Public Moneys, by forwarding a copy thereof to the Council of every County, County Borough, and Borough, in England and Wales, before the 10th day of April, 1909."

The details of the discussion and of the voting, at a technically "private" meeting, we should not be in order in giving; members of the Institute, however, will have learned, probably, by the time this issue appears, that the resolution was carried, with the omission of the word "forthwith." We do not suppose it will make any practical difference, or that the Council will make the Institute ridiculous by sending a circular to a number of Public Bodies to which no attention is likely to be given, and which would almost certainly be regarded as an unjustifiable attempt to interfere with what was no concern of theirs. It was argued by some speakers that as the Council sent out recommendations on the conduct of architectural competitions they would be equally in order in sending a recommendation that competitions should be open to all; but the two matters are on a totally different footing. Any public body that wishes to build has a right either to have an open competition, or a limited competition, or to select an architect and have no competition at all; and the Institute can have no right to interfere on the subject. The discussion was a mere waste of time, except to prove that there are fortunately wiser heads on the Council than belong to some of those who are not on it.

Earthquakes and High Buildings.

AN Italian engineer (name not given) has communicated to the *Times* some observations on the manner in which buildings have been affected by the recent terrible earthquake, the main point being that "all the new houses of not more than 32 ft. high have resisted the shock completely"; it being thus apparent, if the facts are correct, that height of buildings is one of the great elements of danger where earthquakes may be expected. In high buildings the shock no doubt sets up a vertical wave of movement in the walls, for which a low wall does not afford so much opportunity of development. Probably relative height in regard to width of base must also be taken into consideration. This ought to be matter for reflection in respect of the present practice in the United States of constantly increasing the height of buildings, and the tendency to follow their example which is developing more or less in London. This is not happily, at present, an earthquake country to any but a very slight extent; but we do not know when, either here or in eastern America, there may not be a more serious outbreak of earthquake than has yet been experienced; and in the possibility of such an event the increase in high building, in addition to other drawbacks, is obviously a preparation for the worst form of earthquake disaster.

Board of Education Report, 1908.

THE Report of the Board of Education on the Examinations in Building Construction and Drawing (1908) is not very satisfactory. In regard to Stage I., the general average of work is stated to be "distinctly lower than last year," the great fault being lack of accuracy and inexactness and carelessness in the descriptions. This may no doubt sometimes arise not so much from want of knowledge as from inability on the part of candidates to express themselves in writing. It is not uncommon to find people who understand a practical problem themselves unable to describe it clearly in writing. The following question and answer, taken from the Report, gives an idea of what the examiners complain of :

Q.—5. The woodwork for a lead flat is described as being "firred to fall 1½ in. in 10 ft." What does this mean, and how is the operation carried out? Draw half full size a section through the drip in such a flat.

This simple question, attempted by 737 candidates, was very badly answered. A large number of candidates knew nothing as to how "firring to falls" is practically carried out, and the section through the drip was badly shown. only six obtained full marks, and 57 failed to get any.

Other answers were better, and in Stage II. (we presume the more advanced stage) the general standard of knowledge is reported as higher than last year, but there are complaints that the drawings furnished in illustration of the answers are often bad and slipshod in execution. The best answers were obtained for the problem of designing a jib crane carrying a load of one ton, with diagrams and definition of the stresses. In the Honours Examination the best results seem to have been obtained for the subject, "A corner shop with three floors of self-contained flats over it," in regard to which it is noted that "a majority of the candidates could have been entrusted with designing and carrying out actual work of this kind." In the Report on this portion of the examination the want of accurate knowledge of ironwork details is several times referred to.

Concrete Aggregates.

AN interim Report issued by the Special Commission appointed by the British Fire-Prevention Committee, to consider various aggregates for concrete, is chiefly valuable in respect of the provisional specifications formulated for various artificial and natural materials. The specifications are clear and satisfactory so far as they go, but are not complete, since some points are left open for future consideration. Before a complete Report can be issued comprehensive series of tests will have to be conducted on the fifteen different materials selected, the investigation as projected including (1) crushing tests, (2) fire tests, (3) adhesion tests of concrete and steel, (4) deterioration tests, (5) expansion tests, and (6) chemical tests. Owing to the large amount of work involved, and as the lapse of time necessary for obtaining adequate results will be very considerable, it has been decided to distribute the duties among others interested in the subject. Thus, the British Fire-Prevention Committee will undertake the fire tests, the Concrete Institute will be invited to conduct the crushing and adhesion tests, Mr. A. E. Collins, of Norwich, has volunteered to perform the deterioration tests, and Mr. H. K. G. Bamber the expansion tests. The inquiry is one of much importance and wide scope, and our feeling is that the labour and expense it will entail are far beyond the means of the present Committee. To insure sufficiently exhaustive results and really authoritative recommendations the work ought to be transferred to a joint Committee with the full support of the leading Government Departments, the Institution of Civil Engineers, the Royal Institute of British Architects, the Concrete Institute, and other professional bodies.

The Electrical Industry.

UNLESS electrical engineers make greater endeavours to develop the industry the outlook for the coming year is not encouraging. In the past they have found a profitable field in the electric lighting of cities and large towns, but the number of new stations being built is now very few, and many manufacturers depend largely on orders from new stations. The immediate effect also of the rapidly increasing use of metallic filament lamps has been a falling off in the receipts of several supply undertakings. In these circumstance it seems to us that it would be advisable for

electricians to bring before consumers the advantages of electric heating and cooking and other uses of electricity in the house and factory. There are also many small towns where supply stations could be profitably worked provided the supply network were designed so as to take full advantage of the high efficiency of the new lamps. In time these small towns will all be supplied from a power station, but at present the projectors of power schemes have many difficulties to overcome before they get the requisite sanction. We are glad that the Central Ireland Electric Power Company recently got the required authority from Parliament and are now proceeding to supply electricity to a district having an area of over 800 square miles. As peat from the Bog of Allen will be used as fuel this project is of unusual interest. We hope that it will be successful and that cheap electricity will attract electro-chemical and other industries to the neighbourhood. In this connexion it is interesting to notice that the British Aluminium Company has recently installed a plant having a capacity of 30,000 horse-power at Kinlochleven, in Scotland, for making aluminium. Factories of this nature can be supplied profitably by electric companies at a very low rate, as their load is almost constant.

Testing the Hardness of Metals.

MOST of the processes hitherto in use for testing the hardness of metals depend upon some method of recording resistance to indentation, or otherwise stated, resistance to changes of molecular position without involving the separation of molecular from molecule. A new process devised by Mr. W. I. Ballentine, of Chicago, is based upon the fact that a given weight allowed to fall through a given distance will exert a given force upon an anvil, and if that force is transmitted to a pin capable of indenting the material to be tested, the relative hardness of materials can be determined by the depth of indentation. To get over the obvious difficulty of measuring the indentation accurately, Mr. Ballentine uses a recording disc, made of material softer than that under test, and therefore receiving an indentation proportionate to the resistance offered by the test material to indentation by the test-pin. The apparatus is simple and can be readily employed upon any casting or piece of metal in a foundry or workshop. It has recently formed the subject of inquiry by the Franklin Institute, and in consequence of the satisfactory results obtained and the ingenuity of the method the inventor has been granted the John Scott Medal and Premium. The results of some tests conducted by the Science and Arts Committee are printed in the December number of the *Journal* of the Franklin Institute and are well worthy of examination.

The Bermondsey Gas Explosion.

IN the course of the coroner's inquest on the fatal explosion of gas in Grange-road, Bermondsey, some interesting testimony concerning the resistance of concrete was given by Sir Alexander Binnie and a foreman in the employ of the South Metropolitan Gas Company. It appears that the gas-pipe primarily responsible for the explosion was of the kind known as a "rider," connecting two parallel mains on each side of the road. Under it was a cavity, 6 ft. deep by 15 ft. wide, caused by the escape from a broken water main. The cavity must have been in existence for a considerable time, for Sir Alexander Binnie found two high-tide marks upon its sides. The most extraordinary circumstance in connexion with the affair is that the part of Grange-road over the cavity consisted of nothing but a thin layer of concrete covered by granite setts. This apparently frail support had borne the weight of ordinary traffic and horse-drawn tramcars without the least indication of failure, until fractured by the explosion—thus affording a most striking illustration of the valuable properties possessed by well-made and thoroughly-seasoned concrete.

Newport Castle and Bridge.

IN our issue of October 24 last year we published Mr. Caröe's drawing showing a restoration of Newport Castle, and mentioned at the time that there was a proposal before the Corporation of Newport to build a new bridge leading up to a road carried right through the centre of the castle, and thus destroying the central tower and the groined chapel which it contains. It appears that this scheme has now been abandoned in favour of one brought forward by the engineer to the Corporation, to destroy the old bridge instead of destroying the castle, and build a new bridge in its place, keeping the present road which clears the castle. It should seem, therefore, that the Corporation are bent on destroying either the bridge or the castle. Is either course, in a practical sense, necessary? That the bridge as it stands is insufficient for its position may be the case, judging from the engineer's Report; it appears that it is only 24 ft. wide, and 10 ft. narrower than the streets it serves. At the same time we have learned to be rather sceptical as to the alleged insufficiency of old bridges, which is very often a mere excuse for the desire to meddle with ancient structures. We heard a year or two ago that Kingston Bridge must necessarily be rebuilt or widened, otherwise it was impossible to carry the desired tram-omnibus line across it. Yet the tram-rails have been laid down and the tramcars cross on the old bridge without any widening, and no one seems any the worse. We strongly suspect it may be the same with the Newport bridge. At all events, if, as asserted, portions of the masonry of the bridge are in an insecure state, instead of pulling it down, let the Corporation apply to Mr. Francis Fox, the well-known engineer, who will be able by his method to render it perfectly secure with concrete grout pumped into the joints, as he has already done with a good many other ancient structures, bridges included. With such means of repair available, the destruction of the bridge cannot be a necessity.

The Case of Holyrood Chapel.

THE *Scotsman* contained last week two long letters on the subject of Holyrood Chapel, one from Mr. Thackeray Turner on behalf of the Society for the Protection of Ancient buildings, the other from Mr. Samuel Cowan, J.P., a member of the Restoration Committee. Mr. Cowan is evidently very indignant against Professor Lethaby, who reported on the state of the chapel, and the S.P.A.B., for setting up objections to interference with the building, and preventing the use of the bequest of 40,000*l.* which now seems in danger of going begging; and he depreciates the value of Professor Lethaby's Report on the ground that the author of it is not a practical architect: a matter in which he is very much mistaken. Professor Lethaby may not be at present what is called a "practising architect," but he is one of the most practical men we know of, and we considered his Report on Holyrood Chapel conclusive. We are not generally much in sympathy with the views of the S.P.A.B., which are often exaggerated; but in this matter we believe they are right. This is not a case of the same kind as that of Dunblane Cathedral, where the walls were in good preservation and little but a roof was wanted, and the building was required as a church for service. We do not gather that any such requirement is made in respect of Holyrood Chapel; it is a restoration for the sake of restoration, and we believe the result would be to destroy the architectural and historic value of the building, and that it is much better simply to keep it from further decay as it stands. Mr. Cowan rather naïvely observes that he has been a public man in Perthshire for forty-five years, and during all that time never heard a whisper against the restoration of ancient buildings. That is just the point; public men in Scotland evidently want a little education on the subject.

Newcastle Town Walls.

IT is very satisfactory, and highly creditable to the enlightened spirit of the Newcastle-on-Tyne Corporation, that they should have acquired as town property a considerable and very interesting portion, some 400 yds. in length, of the ancient wall of the city, with the view of preserving it for ever from any chance of injury by private owners. The portion purchased includes the Morden Tower and the Arber Tower, the latter still retaining its vaulting and most of its other original features. The Corporation have purchased also a claim of "user" on the platforms of the connecting walls. One can only wish that the Corporations of such cities as Rome and Venice showed something of the same spirit as to the claims of ancient remains against the invasion of modern "improvements."

The Indian Collection, South Kensington.

WE wish to support as strongly as possible the protest which has been made by Lord Curzon, and is echoed by Mr. Boyd Dawkins in Wednesday's *Times*, against the proposed breaking up of the collection of Oriental art in the India Museum, in order to distribute the articles under various sections of the Victoria and Albert Museum. The collection at the India Museum is one of the greatest value for the comprehensive illustration and study of Indian art, and it will lose all that collective value if

broken up. As Mr. Boyd Dawkins truly says, if the collection of Louis Seize furniture made by the late Mr. Jones has a claim to be kept apart in the Victoria and Albert Museum as a separate section, surely there is at least as strong a claim for a special collection of illustrations of the art of India.

Anglo-French Art Exhibition at Paris.

IT is interesting to learn that there is to be an Anglo-French art exhibition at Paris in May and June, as a kind of sequel to that held last year in London; but we wish it had been planned on a wider basis. It is to consist, apparently, of 100 portraits, by English and French painters, of women of the XVIIIth century. This will be to the advantage of English art, as our greatest portrait painters belong to that century, and the French have none of that period to equal them; Boucher and Nattier will not make a strong show as against Reynolds, Gainsborough, and Hogarth. But a general exhibition of English and French painting in Paris, without restriction in regard to subject, would have done something to set right the balance of effect of the Franco-British Exhibition in London, where French art, in consequence of the greater difficulty in getting the loan of pictures to send across the Channel, was not nearly so well represented as English art. A joint exhibition of English and French painting held in Paris would show the tables turned in this respect.

"Mr. *Punch's* Pageant."

THE exhibit of original drawings for *Punch*, at the Leicester Galleries, cannot exactly be classed with picture exhibitions, since another kind of interest attaches to it besides that of art: *Punch* is the "censor morum" and holds the mirror up to life, and in this sense interests all of us, without distinction of profession. The exhibition affords, however, a remarkable opportunity for studying the art of black and white drawing in various forms, and one cannot but be struck with the generally high level of artistic talent which *Punch* has been able through its whole career to enlist in its service. There is one difference between the older and the later drawings, that many of the earlier ones by Leech and Doyle are pencil sketches or water-colour drawings, to be translated afterwards by the wood-engraver into the form in which they were to be printed. The introduction of the system of reproducing by photography made a great difference in this respect, but on the whole we think to the advantage rather than to the disadvantage of original art; for we get the artist's own touch and detail instead of the engraver's, and the artist is thereby stimulated to make the most of his command of line drawing. Some of Tenniel's most remarkable cartoons, we observe, are in finely finished pencil line, and we presume were also directly reproduced from these drawings. Those who want to see what can be done by the mastery of drawing in line should study Keene's two large drawings, "Mr. *Punch's* Reading Party" (270) and "Ploughing the Main" (277); the latter especially is a masterpiece of execution. After Keene, Phil May perhaps comes next as a draughtsman in pen line, though his subjects are very ugly; and some of Mr. Raven Hill's are exceedingly good in this sense. Tenniel is less powerful and free in style as an executant; his drawing, as drawing, is marked rather by neatness and finish than freedom of line; but on the other hand he impresses one more than anyone else by power of composition and by the often grand and even tragic significance of his designs. The interest of the exhibition, from more than one point of view, is very great; indeed, once there, it is difficult to get away from it.

SOME AUSTRALIAN AND NEW ZEALAND TIMBERS.—II.

Physical Characteristics.

THE data in this article have been collated from various official sources to which references are given for the convenience of readers desiring more detailed information relative to the methods of testing, the supply and preparation of the test specimens, and full discussion of the results.

New South Wales.

The leading timbers of this State were tested in 1892, at Sydney University, by Professor W. A. Warren, M.Inst.C.E. The investigation is fully reported in the Government publications, entitled "Australian Timbers, their Properties and Uses," and "The Strength and Elasticity of New South Wales Timbers of Commercial Value." A more recent series of tests was conducted in 1907 on a few New South Wales timbers by direction of the Western Australian Government in the Railway Department Laboratory. These tests are described in a supplement to the official report, entitled "Western Australian Timber Tests."

In Table I. we summarise the mean values of the tensile, compressive, transverse and shearing strength of the timbers tested by Professor Warren. In using these data the architect or engineer should bear in mind the fact that the experiments were conducted on laboratory specimens of small size, and that the strength of timber in practical sizes is about 25 per cent. less than the values in the table.

Table II. contains a summary of the results obtained by the Western Australian Government, and the same allowance should be made for the lower strength of full-sized members as compared with that given by laboratory experiments on small specimens. The uniformly lower values for shearing strength in this table are due to the fact that the tests were conducted in accordance with the method of Professor Johnson, of the United States. The method adopted by Professor Warren gives results from 75 per cent. to 100 per cent. higher than those obtained by the Johnson system.

Western Australia.

In view of the wide discrepancies existing between the values previously given by various authorities for the strength of Western Australian timber, the Government of the State decided two or three years ago that full investigation was necessary, and placed the matter in the hands of Mr. G. A. Julius, B.Sc., M.E., of the Railway Department.

The results of the tests conducted by Mr. Julius, together with a large number of diagrams, drawings, and photographs, are contained in two Government publications, entitled "Western Australian Timber Tests, 1906," and "Supplement to the Western Australian Timber Tests, 1906." These two reports embody the results of all the tests carried out at the Railway Department Laboratory during the years 1905, 1906, and 1907 upon no fewer than 25,800 specimens of timber furnished by Western Australia, New South Wales, Victoria, and Tasmania.

In Table III. we summarise some of the results given by the series of tests on the hardwoods of Western Australia.

TABLE I.—STRENGTH OF NEW SOUTH WALES TIMBER (WARREN).

The results here given are mean values.

Variety.	Tensile Strength. Lb. per sq. in.	Compressive Strength along the Grain. Lb. per sq. in.	Transverse Strength (Modulus of Rupture). Lb. per sq. in.	Shearing Strength along the Grain. Lb. per sq. in.
Ironbarks	20,000	11,000	18,000	2,150
Stringybark	19,400	5,980	13,930	1,940
Mountain ash	19,000	7,500	12,000	2,100
Blackbutt	20,000	8,500	14,000	1,700
White mahogany	19,700	7,500	14,500	2,100
Tallowwood	16,500	8,500	12,000	1,550
Spotted gum	17,000	8,740	16,000	1,900
Grey box	22,400	8,020	16,200	1,790
Red mahogany	14,000	7,960	13,770	1,600
Grey gum	18,500	7,240	14,900	1,800
Forest red gum	13,000	8,600	12,000	1,950
Sydney blue gum	17,500	8,600	14,900	1,800
Woollybutt	20,000	6,980	12,700	1,730
Turpentine	—	9,600	14,000	1,700
Rosewood	13,500	6,000	10,590	1,720
White beech	10,000	8,250	15,600	2,060
Moreton bay pine	16,000	4,200	8,820	1,220
Blackwood	—	—	—	2,150

TABLE II.—STRENGTH OF NEW SOUTH WALES TIMBERS (W.A. TIMBER TESTS, 1907).

All specimens including 12 per cent. moisture.

Variety.	Tensile Strength. Lb. per sq. in.	Compressive Strength along the Grain. l/d = 12/1 and under. Lb. per sq. in.	Transverse Strength (Modulus of Rupture). Lb. per sq. in.	Shearing Strength* along the Grain. Lb. per sq. in.
Ironbarks	18,600	11,100	19,400	1,400
Tallow wood	16,500	8,000	17,100	1,060
Spotted gum	19,300	7,850	16,100	950
Grey box	16,400	9,000	16,200	1,080
Red mahogany	20,400	8,550	16,500	980
Grey gum	17,400	8,400	16,000	1,040
Sydney blue gum	18,900	8,550	16,200	1,100
Turpentine	16,700	7,650	14,800	1,090

* Tested by Professor Johnson's method.

TABLE III.—STRENGTH OF WESTERN AUSTRALIAN TIMBER (W.A. TIMBER TESTS, 1906).
All specimens including 12 per cent. moisture.

Variety.	Tensile Strength. Lb. per sq. in.	Compressive Strength.		Transverse Strength (Modulus of Rupture). Lb. per sq. in.	Shearing Strength along the Grain.* Lb. per sq. in.
		Across the Grain Load on about half-length of specimen. Lb. per sq. in.	Along the Grain l/d = 12/1 and under. Lb. per sq. in.		
Jarrah	15,500	2,520	9,050	15,000	1,050
Karri	18,750	2,780	10,200	17,300	1,050
Tuart	16,500	4,000	10,650	17,900	1,315
Blackbutt	15,700	2,670	8,450	14,200	1,130
Wandoo	16,100	4,450	10,850	16,100	1,310
York gum	13,000	4,300	9,900	14,500	1,280
Red gum	20,200	2,220	9,280	16.600	1,150
Yate	24,200	4,300	11,600	21,500	1,675
Morrell gum	18,000	4,250	11,100	16,900	1,200
Salmon gum	19,200	4,060	10,700	20,100	1,900

* Tested by Professor Johnson's method.

Tasmania.

Data are almost entirely lacking with regard to the strength of Tasmanian timber. A few tests have been conducted by Mr. James Mitchell and Mr. A. O. Green at Hobart, and a series by Professor Kernot, of Melbourne University, gives particulars relative to three varieties of green timber. The only other authentic tests are those included by the comprehensive investigation of the Western Australian Government.

It is to be hoped that the Tasmanian authorities may be induced before long to arrange for a complete series of tests upon the valuable timbers grown in the State, so that architects, engineers, and timber users generally may have trustworthy information such as is absolutely necessary for scientific and economical design.

In the absence of other records we give in Table IV. some data from the Western Australia Timber Tests.

New Zealand.

Considering the excellent qualities undoubtedly possessed by New Zealand timbers, and the evident desire of the Government to encourage their export to the United Kingdom and other countries, it is rather surprising that no systematic official tests have been conducted for the purpose of affording reliable and adequate data for the guidance of prospective users.

Kauri pine has been tested by Mr. Laslett for the Admiralty, and tests have been conducted in New Zealand on small specimens of timber.

Some results of these tests are tabulated in "New Zealand Timbers and Forest Products" by Sir Westby B. Perceval, but they are very incomplete and as quoted are not calculated to do justice to the varieties of timber to which reference is made.

Actuated by the desire to place definite and trustworthy data before our readers, we communicated with the High Commissioner for New Zealand asking for records of any official or other reliable timber tests conducted in the colony, and were informed that no such information was available. The hiatus so revealed clearly shows that the Colonial Government do not appreciate the requirements of architects and engineers in this country, to whom they must look in no small measure for removal of the difficulties which always attend the operation of placing new woods in old markets.

COLCHESTER TECHNICAL INSTITUTE.

As we reported last week, the assessor in this competition awarded the first premium of thirty guineas to Messrs. J. Newman & Jacques, of London; the second of twenty guineas to Messrs. Russell & Cooper, of London; and the third of ten guineas to Mr. G. H. B. Gould, of Ipswich. The Committee, however, refused to appoint the authors of the design placed first by the assessor as architects, on the ground of the excessive cost of the scheme, some 6,000*l.* over the stipulated price. They are now considering the question of appointing as their architects Messrs. Cheers & Smith, of Blackburn, the authors of a design unnoticed by the assessor. At first sight their reason for over-riding the decision of Mr. Paul Waterhouse seems a reasonable one; when a price of about 10,000*l.* is stipulated for and a design estimated at 16,500*l.* is chosen men of common sense might well consider that they were justified in refusing to accept such a recommendation. The building was required to contain three sections—(1) Girls' secondary school, for 150 scholars, with laundry, cookery, and dining-rooms, together with all necessary accommodation for mistresses and the usual offices; (2) a science section, comprising a lecture theatre to accommodate forty, three laboratories, drawing offices for builders and engineers, and necessary accommodations for teachers and principal; (3) an art section. Competitors were allowed to submit an alternative design omitting the last section; in most cases allowance was made for its addition afterwards, if desired. General rooms were also required as follows:—An assembly hall, to accommodate 250, to be available also as a gymnasium, one waiting-room, two committee-rooms, a secretaries' room, and clerks' office, together with bicycle accommodation for the first two sections. It will be seen that a good deal was asked for for 10,000*l.*, a price that was not to be exceeded by more than 5 per cent. Twenty architects were invited to compete, and, as may be imagined, hardly one came within the 10,500*l.*

The decision of Mr. Paul Waterhouse has been adversely commented on by many; in our opinion he was perfectly justified in his action, if, indeed, any of the schemes could be said to comply with the conditions at all. Mersrs. Cheers & Smith estimate the cost of their design at 11,555*l.* 11s. 3d. for the complete scheme, comprising the art section, and, without this, at 9,897*l.* 4s. 7d. Messrs. Newman & Jacques estimated theirs at 16,500*l.*; without the art section, 14,500*l.* An examination of the two schemes reveals the fact that the difference in the cubes is by no means commensurate with the vast difference in cost; in fact, the one is calculated at 5d. per cubic foot, while the other is calculated at 7d. Of the two prices, we incline to the belief that the latter is nearer the mark. Calculated at the same rate, the design preferred by the Committee would cost very little less than the one which has been selected by the assessor; indeed, we cannot consider that its authors have much justification in arbitrarily affixing a price as low as they have done. Of this we are certain, that if it can be done at this price, Messrs. Newman & Jacques's scheme could also have been done at the same, or very little more. We are bound to confess, however, that their plan is not so compact as that of Messrs. Cheers & Smith.

The site consists of an irregular piece of ground sloping from north to south, and bounded on the west by Balkerne-hill, on the east by North-hill. The entrance was to be from North-hill. The sloping nature of the site gave opportunity for a semi-basement floor, which Messrs. Newman & Jacques have placed at the north-west angle, their building being placed, as required by the conditions, at the highest part of the site, the southern portion. An area in the centre is partly occupied by the assembly-hall, and at the ground-floor level by lavatories, cloakroom, and a changing-room, with direct access to the hall, a great convenience in the case of gymnastic displays, for which purpose the hall is also intended. The girls' school is arranged along the west side of the building on the ground floor, and is practically self-contained; access is given to all parts of the building by a corridor running round each floor, and lighted by the central area; in fact, what may be called an orthodox "municipal" type of plan. The cookery, dining, and laundry rooms are on the first floor; independent approach to them from the secondary school is allowed for. The different sections are kept distinct and separate from each other, so that they are capable of being used simultaneously. The elevations are respectable, though not of remarkable excellence, the materials being red brick with stone dressings, the treatment asked for by the Committee. The good point of the scheme is the readiness of independent access to each section by the corridor we have mentioned.

Messrs. Cheers & Smith's design possesses the merit of compactness, though not, in some respects, the convenience of Messrs. Newman & Jacques's. The girls' entrance is at the basement level, somewhat badly-lighted stairs lead to the ground floor, where the classrooms of the secondary school open out of the assembly-hall, a good arrangement in the case of a building destined solely for this purpose, but possessing some disadvantages in a case like the present, where the hall might conceivably be required for the general use of the Institute; indeed, in the conditions it is mentioned under the heading of "general rooms." Those entering by the principal entrance would have to pass through the hall to reach other parts of the building—corridors leading off on either side. Independent entrances, however, are provided to each portion in addition. On the first floor, a gallery along one side of the hall serves to give entrance to the lecture theatre. The short length of corridor, being placed in the centre of the building, would be rather poorly lighted. The art section is entirely contained in the second floor, and the elevations are so designed that this may be omitted at present without giving an unduly-unfinished air. The science department occupies the first floor. Altogether the conditions are well complied with, though the artistic merits of the scheme are not of a high order.

TABLE IV.—STRENGTH OF TASMANIAN TIMBER (W.A. TIMBER TESTS, 1907).

Variety.	Tensile Strength. Lb. per sq. in.	Compressive Strength.		Transverse Strength (Modulus of Rupture). Lb. per sq. in.	Shearing Strength along the Grain.* Lb. per sq. in.
		Across the Grain Load on about half-length of specimen. Lb. per sq. in.	Along the Grain l/d = 12/1 and under. Lb. per sq. in.		
Blue gum	29,800	2.200	8,550	17.000	1.350
Swamp gum	19,400	1,580	7.200	14,500	1.050
Stringybark	20,800	1,875	7 950	16.700	1,400

* Tested by Professor Johnson's method.

Messrs. Russell & Cooper, to whom the second premium was awarded, are the authors of a design of great merit, the total cost of which they estimate at 14,204*l.* 14s., calculated at 6d. a cubic foot. The plan is a long and narrow parallelogram, of somewhat the same type as that of Messrs. Cheers & Smith, and possessing the same disadvantage of corridors depending mainly on borrowed light. There are separate entrances for men and women. The different groups are well kept together. The elevations are designed in a stately "Augustan" style, the large windows of the hall forming the central feature of the main façade. The third premiated design, by Mr. G. H. B. Gould, of Ipswich, is of singular straightforwardness and symmetry. The assembly-hall is placed in the centre; on either side of the hall are the entrances for men and women students respectively, thus separation being preserved till the top floor, comprising the art section, is reached. This arrangement of two wings, with the hall in the centre, is very attractive on plan. In the one wing is placed the girls' school, the classrooms on the ground floor, the laundry, cookery, and dining rooms on the first floor, the lavatories in the basement, the same staircase serving for all the female students. A similar arrangement obtains in the other wing, where the science section is placed. The chief objection is that the lavatories are all situated in the basement, inconveniently distant from the top floor. The estimate is 12,800*l.* The design of Mr. G. W. Leighton was placed fourth by the assessor. Like the first premiated, this plan is of the central-area type, and somewhat extravagant in cost, the estimate being 15,285*l.* for the whole scheme, priced at 6d. a cubic foot. The art group is designed as a one-story building, and would, we think, give an equally-unfinished appearance to the elevations, whether omitted altogether, or in execution. The elevations are very pleasing; the plan is rather wasteful, in our opinion.

Mr. J. B. Fulton's design is good and economical, the estimate working out as low as 10,364*l.*, at 6d. a cubic foot for the superstructure, and 5d. for the foundations. The plan is fairly simple and straightforward. Messrs. Tomkins, Homer, & Ley, of Frinton, are the authors of a design of conspicuous merit, set off to the best advantage by an excellent perspective. Messrs. Brown & Burgess, of Ipswich, show a stronger sense of style in their elevations than was evident in any other drawings which we had the opportunity of viewing. Their small perspective was very seductive. The plan is of the central-hall type. In conclusion, we would observe that a competition in which 50 per cent. of the competitors exceeded the stipulated cost can hardly be regarded as satisfactory; the inference is that the Colchester Education Committee asked for more than they could get for their money.

The drawings were exhibited at the Town Hall, Colchester, on January 5.

A PROVINCIAL VIEW OF THE QUESTION OF REGISTRATION.

THE following is a portion of a paper read before the Liverpool Architectural Society by Mr. H. Lionel Thornely on December 21. It may be assumed to be a fairly representative statement of the view taken of the subject by a considerable proportion of architects practising in the provinces; we are told, indeed, by the Secretary of the Liverpool Architectural Society that it represents the opinion of Liverpool, and therefore we give it publication as such, the rather that we have one or two comments to make in regard to it (see the first article in this issue).

"I can start at once with a very sound, if a very old, argument that every profession, the Army, the Navy, the Church, the law, as well as medicine, insists upon its respective followers submitting themselves to an examination, and I know full well what my opponents' answer would be: 'Yes, we grant you all that, but architecture is not a profession pure and simple. It is largely an art.' Personally, I have never thought this a sound argument, and I cannot even admit that I am open to conviction. I remember that some years ago a discussion raged on this very subject, and, to my mind, a ridiculous discussion it was, for, after all, is not architecture not only a profession and an art, but even a science as well? It is of course an art, and the most ancient of all the arts—an art of construction and in which the nations of all times have written their history in indelible letters. It is a profession because those who follow it advise the general public in all matters appertaining to the erection of buildings. It is a science because constructive art is based upon solid knowledge, and without such knowledge architecture in the true sense of the word becomes an impossibility.

Of course we all know, and we all admit, that every architect should be an artist, but that is not the end of all. Science is essential, and is not that perhaps overlooked by those who spell the art of architecture with a very big A, and do they not by so doing tacitly admit that their training—the science being lacking—is a very half and half affair? I would ask you for a minute to consider any everyday architectural commission. Say, for example, the very ordinary problem that often presents itself to an architect located in a busy centre, viz., the designing of shops or offices with four or five floors of warehouse space over on a site, say, some 30 ft. wide and 80 ft. deep, with premises adjoining on either side. Let me remind you of the various problems that have to be faced:—

A survey of the buildings that at present occupy the site:—The rights of adjoining owners with respect to questions of light and air and party walls; the adequate shoring up of their premises; the preparation of satisfactory approximate estimates of the cost; the nature of the foundations, which may perhaps have to be built on made ground or a soft subsoil; the steelwork necessary in the construction; the weights to be carried on the warehouse floors; the construction of these floors, as well as the roof, and, in fact, of the building generally; the drainage, heating, lighting, and ventilation. These matters satisfactorily dealt with, then, and then only, is our architect free to devote himself to the art he knows, or does not know, in so far as that 30 ft. of frontage is concerned.

I ask you now in all seriousness, are not the problems that I have suggested those that may be dealt with by examination? The answer can be nothing but 'Yes.' At all events, should the prospective client be asked before building operations were commenced whether he would prefer his architect to be primed with such knowledge or crammed with art, assuming, of course, that he cannot have both, I know what his answer would be, nor do I blame him. And I would also tell every young practitioner this, heart-breaking though the announcement may be to an artistic soul, that no art, however high and however inspired, will be the means of building up for him a successful general practice, unless it is coupled with reliable estimates, utilitarianism, sound construction, and, last but not least, a reputation for carrying out his work within the contract amount.

I may be told that in the foregoing example I have taken an exceptional case, and possibly I have, but, on the other hand, do not all, or nearly all, such problems have to be faced in any modern building, whether monumental, utilitarian, or an admixture of both; and should not some guarantee be at least given to the public to whom we look for a livelihood, that all our practitioners are fully qualified to undertake them? Fortunate indeed is the architect who is not called upon to face such everyday affairs, and if he cannot at the outset of his career pass an examination based upon such necessary subjects, then I can only say he should turn his attention to art, and art only, as represented in a lighter and less responsible degree by painting and mural decoration. I may also be told that there is no reason why an artistic soul should have to worry over such dull and uninteresting affairs as construction and practical matters generally. That surely they can be safely relegated to the quantity surveyor, or some such harmless though very necessary individual. Of course they can, and equally of course they often are. But is it, after all, too much to ask that any architect should at least possess some such knowledge? I do not even say in an advanced form, but I do say in so far as sound general principles are concerned. And if so there surely can be nothing but good in an examination covering such knowledge, and can anyone reasonably grumble if he is asked to face it at the outset of his career? And after all, when you take the æsthetic side of the profession alone into consideration, is not this parrot-cry of the impossibility of examining in art something of a fetish? I know this—that there are buildings in every town in England to-day the handiwork of architects—or architects, at least, by name—that, if submitted by a candidate at the Associates' Examination at the Institute, would not satisfy the examiners in design. What is more, in many instances their authors could never have passed such an examination without having devoted at least a certain amount of attention to the artistic side of their profession. With a compulsory examination to be faced they would have to do so, and such study can only benefit architecture generally in the long run.

There are men in practice to-day who, I venture to say, have no knowledge, and never have had, and never will have, of either the five orders or the leading characteristics of the various Gothic periods. If a compulsory examination had only compelled them to gather this modicum of knowledge, they would be doing better work. I know full well that this is striking a very low level indeed, but much of the work to-day does, alas, strike this low level, and its authors are the type of men whom registration will in the long run get at and improve in spite of themselves. I sometimes think that every architect now in practice is more or less suffering from the effects of the lack of an early systematic course of architectural training, and are even the leaders of the profession exempt? Examinations, be they voluntary or compulsory, must, by the study and labour they enforce, render material assistance in gradually eradicating this evil.

I venture to say that this question of higher education and compulsory education into the bargain is one of the strongest arguments that can be put forward in support of registration, and one that cannot be too strongly urged. It is also bound in the long run to strengthen the position of the various architectural schools that have recently been formed throughout the country, and strengthening them will strengthen the future generation of practitioners. Do not forget—for this is a most important point—that it is proposed in the Institute's registration report, that they should apply for Parliamentary powers to make it compulsory that all architects, before receiving the diploma of membership of the Institute, must have passed through a definite course of architectural education. Such course to be approved by the Council. I go out of my way to mention this because so many anti-registrationists express just such sentiments as those I am going to give you, and I therefore think it necessary to attempt to show you why, in my opinion at any rate, such expressions can be controverted.

Though it is outside the province of this paper I should like to say how greatly I have been struck, in fact anyone must be struck, by the excellent work that is being done by students here in Liverpool, under

Professor Reilly, as recently described and illustrated in the *Builder*. It is evident that the true principles of architectural education are here being inculcated, and I take it that this is the type that the Institute intends in the future to demand. I lay particular stress upon this point because it seems to me to cut away all the ground from under the feet of those who, to belittle this question of compulsory examination, use the argument that the standard of such a test must be a very low one. This statement is made in the memorandum accompanying the report of the Registration Committee, and is also referred to by Sir Aston Webb in the discussion at the Institute on that report—perhaps I cannot do better than quote his words:—

"It was stated in the report that the standard of compulsory registration would have to be a very low one. Some had asked, How did they know that? They knew it partly by the evidence given before the Committee. A very distinguished architect in his evidence said he felt sure that no examiner, if he found a candidate good in certain points, would dare to refuse him the right to practise as an architect because he did not like his design. Another witness—an extremely interesting witness—Professor Capper, of Manchester, who was in Quebec when registration was started there, and who was in that country and took an active part in educational work for several years after registration had been in vogue, had given his opinion that the qualification must be a low one, that when they were examining men for the right of earning their bread-and-butter, no human examiner could be got to fix a very high standard on the art side when he knew the men's living depended on it. He mentioned that as the ground and reason for putting in the report that the standard for admission would have to be a low one."

A fair answer to that is that if those who sit for the examination have been compelled to take a course of education such as your Liverpool School is now providing them, whatever the standard of the examination may be, I venture to think the status of the examinee will be anything but a low one, and, in fact, very much higher than has been provided by the average architectural student up to the time of such schools being instituted.

But, after all, why should the standard be low? I cannot see that we are bound to dance to the Montreal pipe, and it might even be that Professor Capper's low standard, though I can claim no knowledge on this point, will be quite high enough for the average mortal. And is it, indeed, a sound argument to prophesy that the standard, even on the outside only, is bound to be low because a man's bread-and-butter depends uopn the result? If that is the case, then the qualifying examination in any profession must suffer from this drawback, and I have yet to learn that either medicine, the law, or the Navy—to take three examples at random—"temper the wind to the shorn lamb." And is it not after all only "being cruel to be kind," if examiners refuse to qualify a young man who, they feel—to use a slang expression—has backed the wrong horse, and is at the age when it is not too late to turn his attention to a more congenial and, consequently, a more remunerative calling?

I do Sir Aston Webb the justice to point out that he refers to this low standard from the *art* point of view. But, again, why should even the art side suffer? With additional facilities for education such as I have already referred to, surely a fair average standard can be not only demanded but obtained. If it is so difficult, or even impossible as some would tell tell us, to examine in art, then why does the Institute make the attempt in its Associates' examination? It is not, either, an unknown occurrence for a good all-round candidate to be sent back in this one subject. It happens at every sitting.

I think that opponents to this question of registration often do its advocates an injustice by assuming they take the view that all sorts of marvellous miracles will come about the minute the measure is obtained. The most ardent registrationist surely has never expected that. All that is urged, and I think reasonably urged, is that although genius cannot be created, nevertheless mediocrity can be moulded into respectability. It is, after all, so very easy for opponents to announce all sorts of dire catastrophies, which even if they occurred would not leave us one whit worse off than we are to-day. How often are we told that a compulsory examination will only result in bringing each and all down to one dead level of mediocrity! It may perhaps be the means of initiating a levelling process, by making the general standard of education considerably higher in the long run, and average ability and knowledge consequently more usual than it is to-day. That would not, however, mean retrogression, but just the reverse. I do not see how anyone can seriously believe that genius or even real ability will be trammelled either by examinations or the lack of them.

I wonder if the law examinations have ever prevented a man becoming a Solicitor-General or from sitting on the woolsack, or the London M.B. in medicine nipped in the bud a distinguished specialist's career? If the same argument cannot be applied to the architectural profession, then I can only say that it must be elevated on a very high pinnacle indeed.

It is useful also for us all at times to bear in mind the old proverb—"Never prophesy until you know"—and perhaps this is sometimes forgotten even when registration is concerned. How can Mr. W. D. Caröe, for instance, be so entirely certain of what is going to happen as to express himself by a letter in the Institute proceedings as follows:—

"To fetter architecture thus (that is, by a diploma) is to throw dust in the eyes of the public, to give a spurious hallmark to mediocrity, and even to incompetence. The effect of a diploma, in fact, defeats itself irrevocably, and this is a point of vast importance which was only once hinted at in the evidence. A compulsory exaimnation which can have none too high a definite standard (I have already attempted to answer that) does not serve to weed out. The outcome is precisely the contrary. It serves to tempt in—in large numbers—those, who if an examination did not exist, would never have dreamt of entering the profession at all, have no real call towards it, and only do so because the existence of a diploma suggests a means of livelihood. The inevitable consequence is a great increase of competition by the introduction of a flood of crammed incompetence, and a necessary lowering of the general average of production."

And in any case is not Mr. Caröe attempting to make bricks without straw? If an examination did tempt an increasing number to enter the profession, that is surely no reason why it should not be instituted if it is going to prove a benefit in the long run. But it is news to me, at any rate, that the absolute certainty of having to face a stiffish ordeal *is* going to prove such a delightful temptation as Mr. Caröe asks us to believe. Even in my limited experience, and I dare say many here to-night will say the same, time after time I have come across individual cases where it is just this lack of compulsory examinations that has drawn many a youth towards an architectural career. I have more than once been given the reason that Tom, Dick, or Harry, as the case may be, does not care for the idea of business—he must enter a profession—he never could face 'those horrid examinations'—'draws beautifully'—*ergo* architecture.

It is cases such as this that a recognised course of instruction, followed by compulsory examination, will assist. If a student develops ability well and good. If not, he will see for himself, or his professors or guardians will see for him, that he is never going to attain to the standard required, and he will then be well advised to abandon the race to the strong. This does not seem to mean increased competition, nor can I understand how Mr. Caröe can think so himself. And, in any case, does not he start his argument from entirely wrong premises?

He assumes that registration is going to create this 'flood of crammed incompetence,' and yet either forgets, or ignores, the palpable fact that the incompetence—and not even crammed incompetence at that—already exists, and to no small extent either. Even if registration does not effect an improvement, an enforced standard of education cannot surely make things worse, and the forecast is into the bargain entirely in contradiction with the result that has been obtained in other professions, where not only is an examination requisite, but its standard has from time to time been raised to meet the advanced training that students are able to obtain.

I have to-night laid special stress on this question of education because, as I have already stated, I think it will eventually prove to be one of the strongest planks in the registration platform. I would ask you, nevertheless, to bear in mind that other advantages, and very real advantages, certainly should accrue. It is a lamentable fact that etiquette amongst architects—or at least architects below a certain level—can be likened to the Snakes of Ireland, 'because there ain't none.' And this is not surprising when it is borne in mind that perhaps no other profession exists in which its members vary to such an extent as regards their social status. In every town, and particularly so in small ones, there are men who, recruited in the first instances from the lower middle-class, and even the working-class, possess little knowledge, and even less idea of what professional honour really means. It is this class of practitioner, or mostly so, that is willing to accept commission from tradesmen, and it is the line of conduct of such as these that the average town councillor will base his assumption that the practice is a general one, and smile ironically if the accuracy of his assumption is denied. Under existing conditions such men can call themselves architects and foot it with the best. To control them is impossible, and the whole profession suffers—let the anti-registrationists say what they will—because of their misdeeds. They will undercut their charges one day if it becomes necessary to thereby oust a respectable practitioner, and gaily wave the Institute scale the next should it better suit their purpose. Their poaching proclivities frequently replenish what might otherwise be an ill-stocked office larder.

These are the men that have got to be controlled, and a strong Registration Bill will 'do it now,' as the Yankees say, and by degrees (though only by degrees), with an enforced standard of education, and an examination based upon it, I am firmly convinced they will become, if not as extinct as the dodo, at least as harmless. The *Builder* tells us that this and similar arguments is looking on the business side of architecture, and that Mr. Brock and Mr. Gilbert have never thought of applying for a legal injunction to prevent the goodly array of Euston-road statuary gentlemen from calling themselves sculptors, that if this measure goes through it will be imposing upon the Central Society a principle which the leading London architects are known to disapprove of at the bidding of the provincial architects, and by a vote in which numbers will count more than names.

I have already endeavoured to answer these and similar arguments, and with all respect to the *Builder* I would venture to remind that influential organ that unfortunately for its theories majorities rule nowadays (or at least we eventually hope they will), and that there is, after all, a higher aspect to the question than 'the business side of architecture.' I appeal for this measure and others appeal for it as one that will confer on architects and so on architecture a great and enduring benefit. I appeal to those leaders at the Institute who, having attained to the seats of the mighty, are not always ready to heed the call for protection insistently raised by the rank and file of the profession. I appeal to them to come into line with us, and earnestly try to look at matters from some standpoint less exclusive than their own. I appeal even to that minority in the provinces who may still look at this question in what I might describe as 'the grand manner.' I ask each and all of them to come down from their pedestals and forget for a while such phrases as 'an architect is born and not made,' or that 'he should remain unfettered by scholarship or tradition.' I ask them to

descend and work for the greatest good for the greatest number. It is not pure selfishness either that compels this appeal. I do not expect to see, and I even doubt if any in this room to-night will garner the full fruits of the harvest. To future generations will this legacy be bequeathed in full measure pressed down and running over, and they will be better and stronger men than we are in consequence.

Better because of their training, and I also believe because of their art; stronger by the strength of unity which one great organisation only can achieve."

ABBOTT'S HOSPITAL, GUILDFORD.

THE foundation-stone of George Abbott's Hospital, the gift of the founder to his native place of Guildford, was laid by Sir Nicholas Kempe, on April 6, 1619, some eight years after the donor's promotion from the Bishopric of London to the Archbishopric of Canterbury. The central gateway, flanked by semi-octagonal turrets and adorned with the Virgilian inscription, "Devs Nobis Hæc Otia Fecit," has two tiers of windows, whereof the upper one is divided by stone mullions into four lights, and the lower one by the addition of a transom into ten. Below these is the founder's heraldic insignia, tastefully carved on a large stone panel inserted in the brickwork. The turrets are surmounted by cupolas, on each of which veers a banner vane.

Beyond the gateway is the quadrangle, about 70 ft. square, prettily laid out with walks and flower-beds. On the left are the rooms of the brethren, on the right those of the sisters, while in the north-east corner is the Master's house. The dining-hall, an apartment 30 ft. long, is panelled nearly to the full height of the walls, and possesses a fine cornice and a very remarkable mantelpiece, with an open fireplace. Like all the other apartments, this hall has retained the whole of its original fittings, stools, tables, and benches. The attached chapel also has many points of interest, including two stained-glass windows, the designs of which have been attributed on very slight evidence to Albert Durer. Other attractive features are the kitchen, with its buttery-hatch; the "boardroom" over the gateway; the Master's house, and the old black oak, with which the whole of the interior is embellished. Among what may be termed the minor architectural features are the elaborate chimney-stacks of every kind of shape—octagonal, polygonal, or roughly-squared—collected at the top into clusters by bands of heavily-moulded brickwork.

It was in this building that the Duke of

Sidney Heath.

Abbott's Hospital, Guildford.

Monmouth was lodged on his way to London after his defeat at Sedgemoor, and here also Archbishop Abbott retired for a while after an ill-aimed arrow from his cross-bow had killed one of the keepers of Lord Zouch, with whom he was hunting at the time. This unfortunate incident caused a great controversy, not only among the English divines, but with the learned doctors of the Sorbonne as well, and ended in the grant of a full pardon to Abbott from the King and a dispensation from the bishops, and this notwithstanding the opinion of Lord Keeper Williams, who held that a sacred office could not be held by "a man of blood." Three bishops-elect, one of them Laud, refused to receive consecration from Abbott, and their scruples were respected; while it was gloomily remembered afterwards that the crown had been placed on the head of Charles I. by a homicide. SIDNEY HEATH.

EXHIBITIONS.

LANDSCAPE EXHIBITION.

WE fear the Exhibition of the "Six Landscape Painters," once more open at the rooms of the Society of Painters in Water-colours, is not quite keeping up its position. Most of Mr. Austen Brown's contributions could not be classed as landscape, and the same may be said, to a certain extent, of some other works in the room. Mr. Leslie Thomson shows the best; his "On the Links" is a very fine landscape, and most of his other contributions are interesting. Mr. R. W. Allan is not up to his usual mark, though it is interesting to see an Italian landscape with a piece of Renaissance architecture in the foreground from a painter who generally treats such a different kind of subject; six of his scenes are Japanese, but we prefer him in the cold grey north. Nor has Mr. Aumonier anything equal to some of the pictures by him which we have seen in these exhibitions, but his "Summer" and "Afternoon" are very good small landscapes. Against Mr. Peppercorn's work we protest; his largest picture, "A Stormy Day," we call a smudge of paint rather than a landscape. Two outsiders have been invited to exhibit; Mr. Hughes-Stanton and Mr. Lawton Wingate, R.S.A., a Scottish painter whose works are new to us, and whose largest work "Pastoral," though rather ragged in composition, has a fine effect of atmosphere. Mr. Hughes-Stanton's style is better appreciated in larger works than in the small ones he exhibits here; but "Among the Dunes, Pas de Calais," is a fine bold sketch on a small scale. On the whole the exhibition is, for the first time, a little disappointing.

ROYAL INSTITUTE OF PAINTERS IN WATER-COLOURS.

The Institute has confined itself this winter to what is literally, with a few exceptions, an exhibition of sketches and studies. These are very numerous and many of them good, but on the whole the quality is hardly equal to the quantity; each artist's works are grouped together, and we go from group to group without finding anything beyond what may be classed as pleasing; and in some cases it may be classed as mediocre. Exceptions are to be found in the work of Mr. Sainton; in some of the broad landscape sketches by Mr. Bernard Evans; in Mr. Haité's colour studies; and in Mr. David Green's coast and sea-pictures, among which "Rain" is an admirable study of atmospheric effect. But as a whole the show is one of but mild interest.

THE INCORPORATED ASSOCIATION OF MUNICIPAL AND COUNTY ENGINEERS.—The next annual meeting of this Association will be held in London on Thursday, Friday, and Saturday, June 24, 25, and 26.

DIARIES.—Messrs. Gibbons Brothers, Ltd., engineers, millwrights, and gasworks contractors, Dudley, Worcester, and London and Manchester, have sent us a useful blotting-pad and calendar for 1909. It is convenient in form, and suitable for use on the office desk.

THE CONCRETE INSTITUTE.

WE have received the following letter from the Honorary Secretary of the Concrete Institute, with a suggestion for its publication, accompanied by the statement that the letter has already appeared in another professional journal, but that this publication was "without the authority of the Institute, and the letter has not up to the present been issued to any journal, but was merely sent out to the members of the Institute." On this explanation we are quite willing to print it, as follows:—

"Temp. Offices: 1, Waterloo-place, Pall Mall,
London, S.W.
December 31, 1908.

RUSTING OF STEEL INSIDE A CONCRETE COVERING.

DEAR SIR,—It has been brought to the notice of the Concrete Institute that in one or two reinforced concrete structures a noticeable deterioration has taken place on account of the rusting of the steel inside the concrete covering. Apparently these cases are very rare, the bulk of the structures having stood the test of time exceedingly well. These special cases have, however, served to cause some uneasiness to engineers and architects who contemplate using this material, and to others who have to sanction that use. It is most important that the reputation of a building material, which is undoubtedly successful and excellent, should not be marred by occasional mishaps. The Science Standing Committee of the Concrete Institute has, therefore, been asked to investigate these cases of rusting, and to find out their cause, in order that such deterioration may be entirely prevented in future. You are asked, therefore, to assist the Committee by giving them all possible information about the behaviour of any reinforced concrete structures which have come under your notice, whether they have suffered or not. Such information will, if you desire it, be treated as strictly confidential, and in no case will names, either of persons or places, be published. It is felt, however, that members of the professions will not hesitate to tell all they know about this material, seeing that it has come into use so recently that no amount of foresight could be expected to guard against every form of deterioration. The Committee will gladly reciprocate your courtesy by placing at your disposal the conclusions they come to after they have investigated the matter.

It is suggested that the information may be given in the form of answers to the following questions, but it will be readily understood that, whether or not this form is adopted, it will be of great assistance to the Committee to have information as full as possible. Hand sketches or drawings will be of great value:—

(1) Have you ever examined any reinforced concrete structure with a view of ascertaining whether the reinforcement was rusting under the concrete?
(2) What was the nature of the structure?
(3) Did you cut away the concrete or merely examine the surface?
(4) Was the structure exposed to wet or bad weather?
(5) What was the nature of the concrete? Mixture, thickness condition?
(6) What was the nature of the reinforcement? Iron or steel, thickness of main bars, thickness of secondary reinforcement, and thickness of covering of concrete?
(7) Did you find the steel rusted? If so, to what extent?
(8) Did you find the concrete cracked? If so, to what extent?
(9) Are there any special circumstances, such as heavy load, special chemical action, etc., which may have affected this case?

I am, dear Sir, yours very truly,
ARTHUR E. COLLINS,
Hon. Secretary, Concrete Institute.

P.S.—Replies are requested by February 1 *latest*, but an early reply would be much appreciated."

Architectural Societies.

ULSTER SOCIETY OF ARCHITECTS.

The annual general meeting of the Ulster Society of Architects was held on December 30 in the Society Rooms, 13, Lombard-street, Belfast. The officers for the ensuing year were elected by ballot, as follows:—President, Mr. W. J. Gilliland, F.R.I.B.A.; Vice-President, Mr. R. M. Young, J.P., F.R.I.B.A.; Honorary Treasurer, Mr. J. J. M'Donnell, J.P.; Honorary Secretary, Mr. N. Fitzsimons, F.R.I.B.A.; Members of Council, Messrs. H. Seaver, B.E., J. St. J. Phillips, A.R.I.B.A., and W. Hartley Patterson; Associate Members of Council, Messrs. T. W. Henry and H. Lamont; Honorary Auditors, Messrs. F. H. Tulloch, F.R.I.B.A., and James Ferguson. Mr. Thomas Houston, an Associate of the Society, was elected a member. The Treasurer's statement of accounts, which showed a substantial balance to the credit of the Society, was received and adopted. The annual report of the Council was read, and, on the motion of the President, seconded by Mr. Ferguson, was unanimously adopted. It contained the following: The ranks of the Society have been recruited during the year by the election of one associate member and three students, one associate member has qualified for full membership, and there has been one resignation of membership. The annual dinner of the Society was held on January 27 last, and was well attended by the members and their friends. During the progress of the Irish University Bill through Parliament the following resolution was passed by your Council:—"That any university created for Belfast and the province of Ulster will be incomplete unless provision is made for the establishment of a Chair of Architecture therein, and it is essential that sufficient funds be provided by the Government to enable the statutory authority of the proposed university to provide such a Chair." Copies of this resolution were forwarded to the Chief Secretary for Ireland and Members of Parliament. The exhibition of the Royal Institute of British Architects prize drawings was held in the Art Gallery of the Free Library during the week beginning April 27, and was visited by a considerable number. Thanks are due to the Library and Technical Instruction Committee of the Corporation for the use of the Gallery, thus affording the Society an opportunity of doing something towards the education of the public in architectural art. The following were selected by your Council to act on the Joint Art Committee as your representatives for the year:—Messrs. W. J. Gilliland, J. St. J. Phillips, J. J. M'Donnell, and N. Fitzsimons. Your Council has not allowed any opportunity to slip of using its influence to stop the demoralising practice of public officials engaging in private practice. Your Council has recently addressed a communication to the Senate of the new "Queen's University of Belfast" with reference to the appointment of an architect for the buildings required in connexion with the university scheme. This is one of the most important architectural problems which have arisen in Belfast, and it would be deplorable if it were not dealt with in the best possible way both for administrative facility and architectural effect. It has been suggested that this can only be obtained by a competition, the conditions of which should be drawn up by an architect of the highest standing, and that as the university is intended to afford educational facilities, primarily for the Province of Ulster, the competition should be confined to qualified architects practising in that province. Your Council has not lost sight of the interests of the student members, and has earnestly discussed on many occasions methods by which further stimulus might be given to their industry in the prosecution of study to prepare themselves for an arduous profession, which requires an ever-increasing acquisition of knowledge and skill, if success is to be obtained in after-life. It is much to be regretted that the students themselves do not appear to recognise adequately the necessity for such application. Prizes were offered by some of the senior members for sketches executed during the summer months, but the organisation of the Sketching Club was not proceeded with. The Council again desires to call attention to this subject, and urges the absolute necessity of students qualifying themselves by passing the Royal Institute of British Architects examinations for the associateship.

BOOK RECEIVED.

SCIENCE EXAMINATION REPORTS OF THE BOARD OF EDUCATION: 1908. (Wyman & Sons. 6d.)

THE BUILDER

JANUARY 9, 1909.

TO CORRESPONDENTS.

NOTE.—All communications with respect to literary and artistic matters should be addressed to "THE EDITOR" (and not to any person by name); those relating to advertisements and other exclusively business matters should be addressed to "THE PUBLISHER," and *not* to the Editor.

All communications must be authenticated by the name and address of the sender, whether for publication or not. No notice can be taken of anonymous communications.

The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications; and the Editor cannot be responsible for drawings, photographs, manuscripts, or other documents, or for models or samples, sent to or left at this office, unless he has specially asked for them.

All drawings sent to or left at this office for consideration should bear the owner's name and address on either the face or back of the drawing. Delay and inconvenience may result from inattention to this.

Any commission to a contributor to write an article, or to execute or lend a drawing for publication, is given subject to the approval of the article or drawing, when received, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

N.B.—Illustrations of the First Premiated Design in any important architectural competition will always be accepted for publication by the Editor, whether they have been formally asked for or not.

TERMS OF SUBSCRIPTION.

"THE BUILDER" (Published Weekly) is supplied DIRECT from the Office to residents in any part of the United Kingdom at the prepaid rate of 19s. per annum, with delivery *by Friday Morning's Post* in London and its suburbs.

To Canada, post-free, 21s. 8d. per annum; and to all parts of Europe, America, Australia, New Zealand, India, China, Ceylon, etc., 26s. per annum.

Remittances (payable to J. MORGAN) should be addressed to The Publisher of "THE BUILDER," 4, Catherine-street, W.C.

MEETINGS.

FRIDAY, JANUARY 8.

The Architectural Association.—Mr. H. D. Searles-Wood on "Building Materials." 7.30 p.m.

Birmingham Architectural Association.—Mr. J. B Fulton on "The Renaissance in Spain."

MONDAY, JANUARY 11.

The Incorporated Clerks of Works' Association (Carpenters' Hall, London Wall).—Paper by Mr. C. W. Denny on "Some Methods of Modern Building."

The Surveyors' Institution.—The discussion will be resumed on the paper read by Mr. H. T. Scoble at the Ordinary general meeting of November 23, entitled "The Administrative Aspects of Sewage Disposal." 8 p.m.

London Institution.—Mr. Isaac S. Scarf, F.I.C., on "Light and Colour," illustrated. 5 p.m.

Liverpool Architectural Society.—Mr. Thomas H. Mawson, Hon. A.R.I.B.A., on "The Peace Palace at the Hague," with special reference to the parks and gardens, illustrated by lantern slides and drawings. 6 p.m.

WEDNESDAY, JANUARY 13.

Northern Architectural Association. — Mr. W. H. Knowles, F.S.A., on "The Romano-British City of Corstopitum, Corbridge." 7.30 p.m.

Royal Sanitary Institute.—Discussion will take place on "The Purification of Water by Ozone and other Chemical Substances," to be opened by Dr. S. Rideal, D.Sc. (Lond.). 8 p.m.

Edinburgh Architectural Association.—Mr. Paul Waterhouse, M.A., on "A Goodly Heritage." 8 p.m.

Carpenters' Company, Carpenters' Hall, London Wall (Lectures on Arts Connected with Building).—Mr. R. Weir Schultz on "Reason in Building, or the Commonsense Use of Materials," I. 7.30 p.m.

THURSDAY, JANUARY 14.

London Institution.—Mr. W. Rothenstein on "A Basis for the Appreciation of Works of Art." 6 p.m.

Society of Architects.— Professor H. Adams on "The Stability of Walls." 8 p.m.

The Institution of Electrical Engineers.—Mr. Stanley Clegg on "The G.B. System from a Tramway Manager's Point of View." 8 p.m.

Junior Institution of Engineers (at Royal United Service Institution, Whitehall).—Lecture on "The Laws of Heat Transmission in Steam Boilers, as Deduced from Experiment," by Professor John T. Nicolson, D.Sc., M.Inst.C.E. (Hon. Member). 7.30 p.m.

FRIDAY, JANUARY 15.

Glasgow Architectural Craftsmen's Society. — Mr. R. Murdoch on "Contracts and Contracting." 8 p.m.

Institution of Mechanical Engineers.—General meeting. 8 p.m.

Architectural Association Debating Society.—Professor E. Constable Alston on "Drawing from the Life—its Value to Architects."

SATURDAY, JANUARY 16.

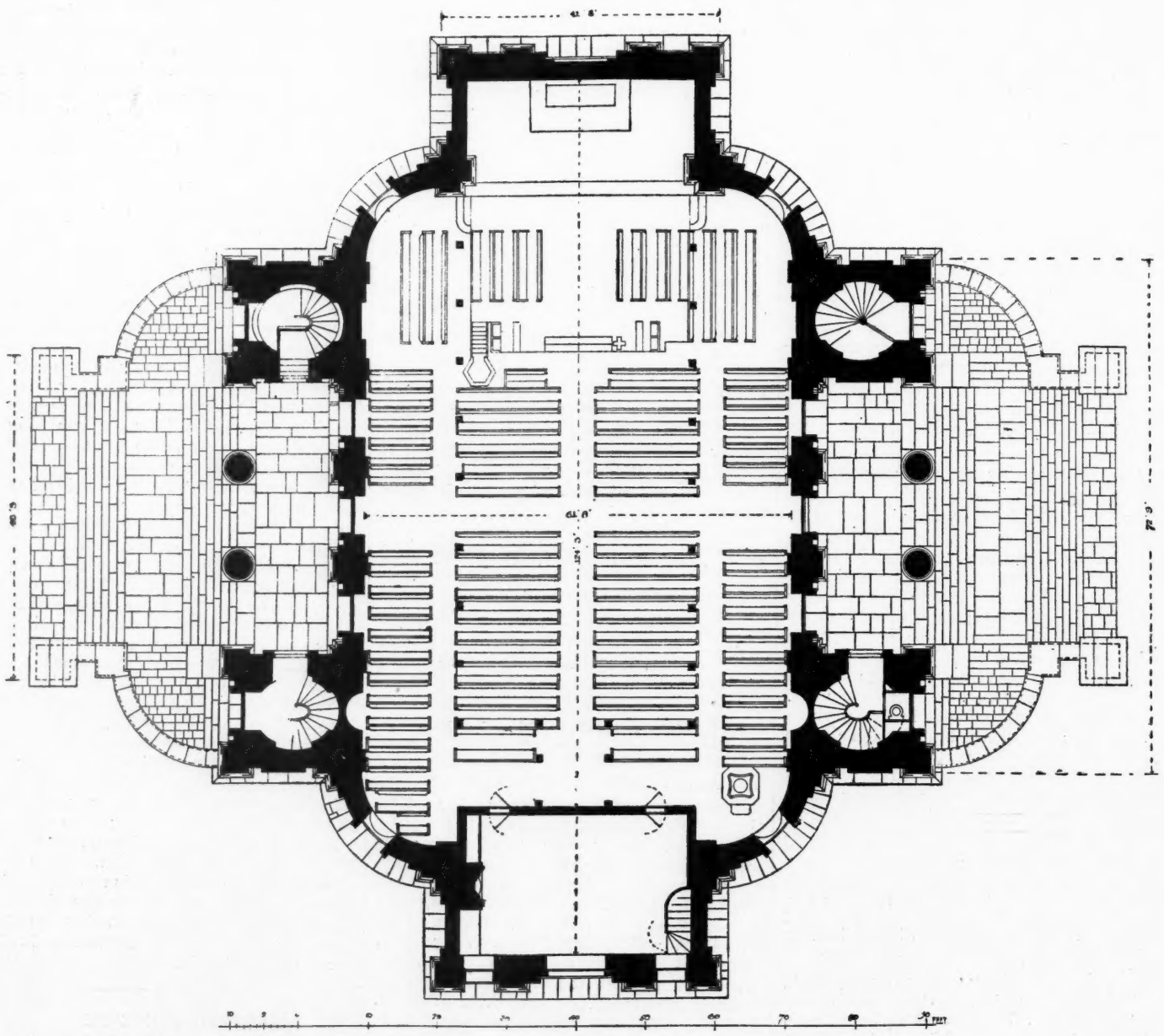
Junior Institution of Engineers.—Visit to the engineering laboratories and workshops of the City and Guilds Central Technical College, Exhibition-road, South Kensington. 3 p.m.

Architectural Association.—First Spring visit, to Messrs. Selfridge's premises, Oxford-street. 3 p.m.

Illustrations.

ST. JOHN THE EVANGELIST CHURCH, WESTMINSTER.

WE propose to give during this year a series of illustrations, one each month, of some of the finest of the London late Renaissance churches after the time of Wren. The churches built by Wren have been largely illustrated, in many forms; but there are various fine churches in London of the period immediately succeeding Wren, some of them by architects who were Wren's pupils or professed followers, which are much less known and have been little illustrated.



Plan of St John's Church, Westminster. Measured and Drawn by Mr. A. Wyatt Papworth.

9

on "The

Stanley
anager's

l Service
of Heat
Experi-
nst.C.E.

Mr. R.
n.
neeting.

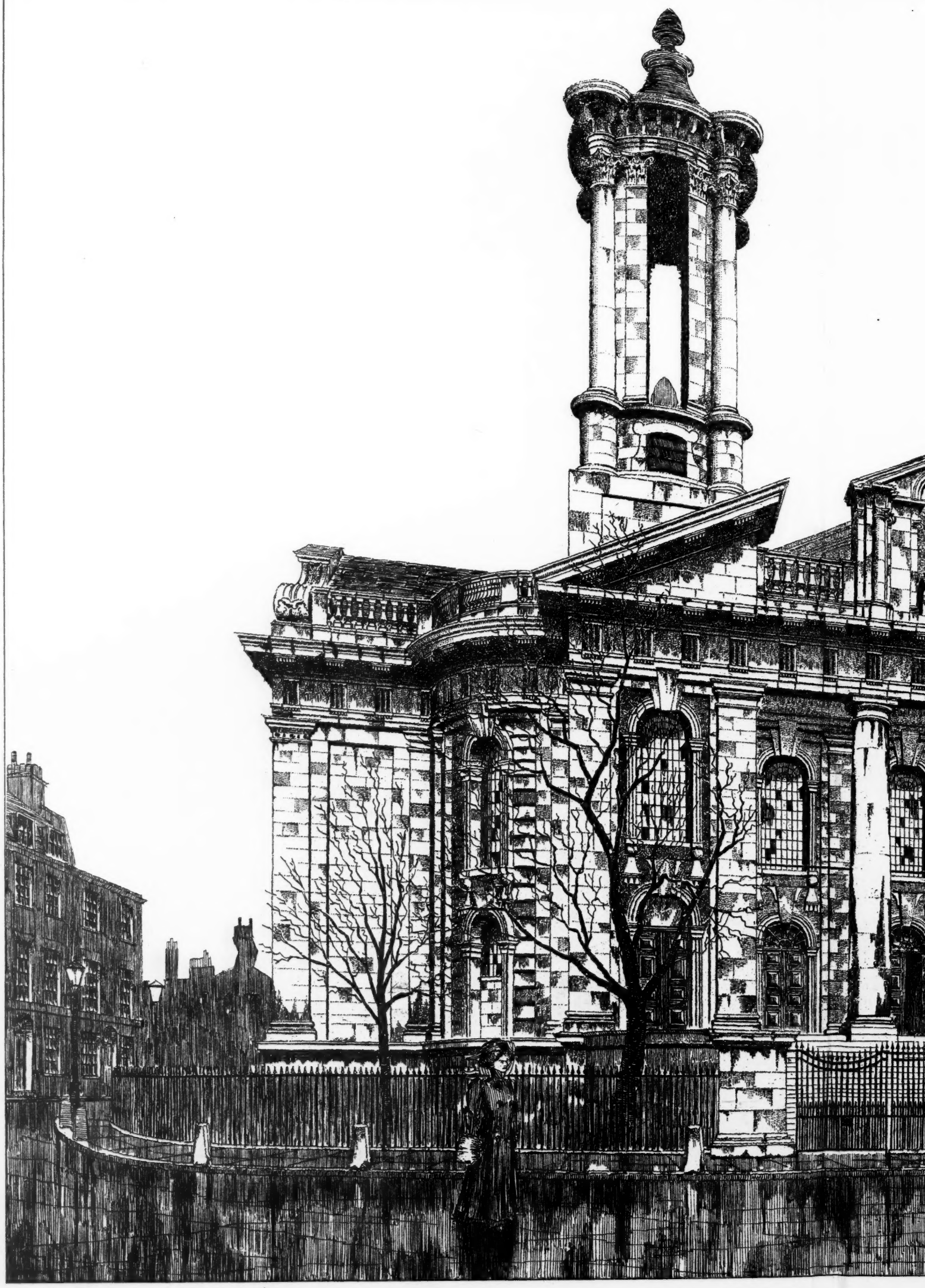
rofessor
Life—its

ngineer-
l Guilds
th Ken-

Messrs.

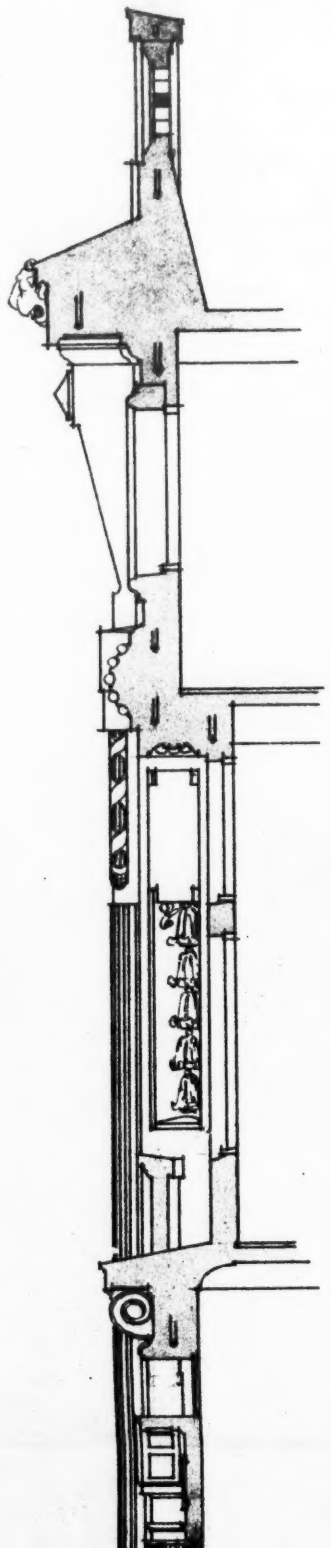
RCH,

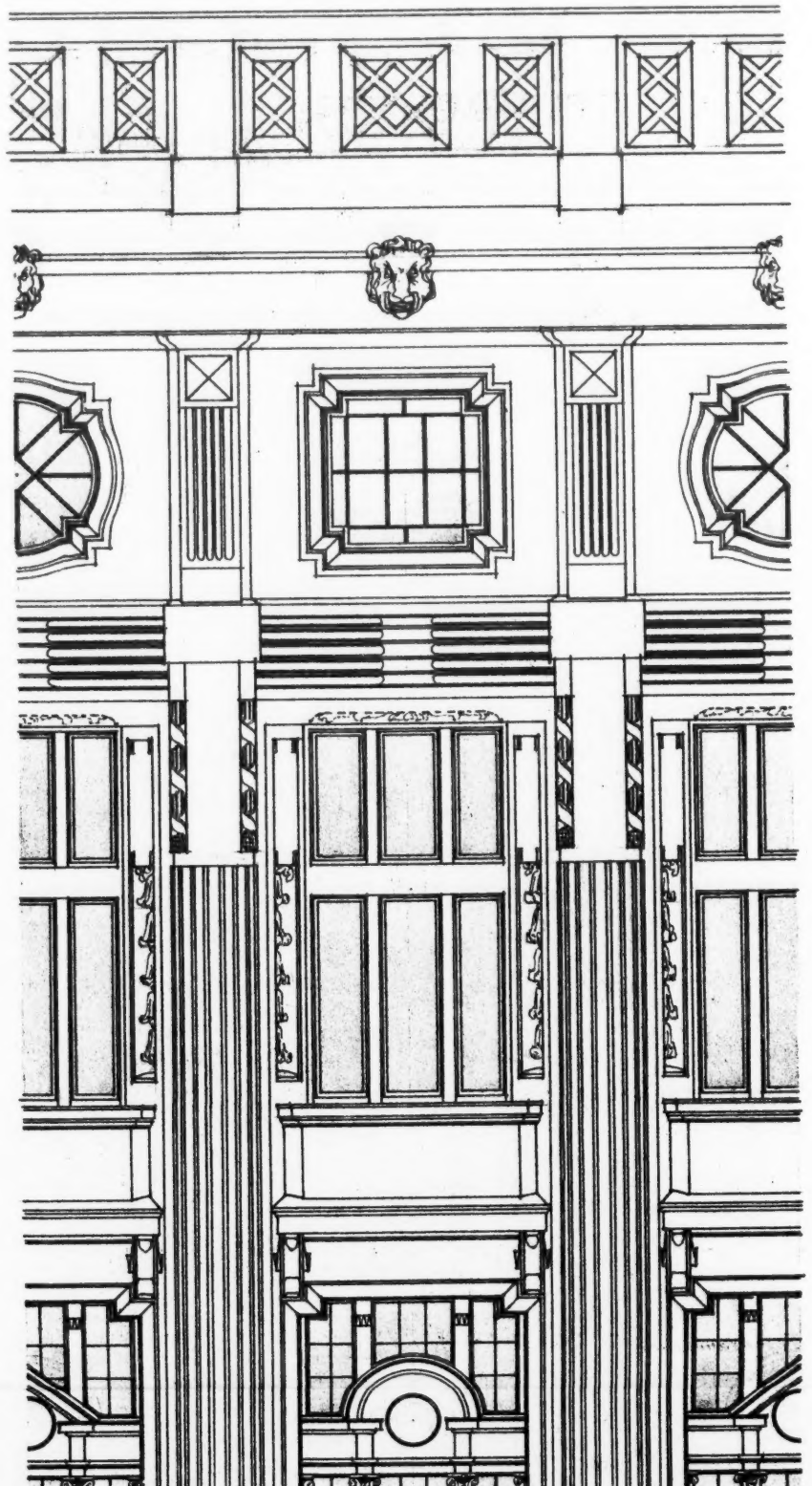
s year
e each
of the
urches
built
ed, in
s fine
iately
nitects
d fol-
have

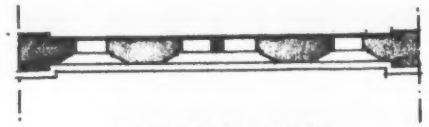


LATE RENAISSANCE CHURCHES OF LONDON: I.—ST. JOHN TI

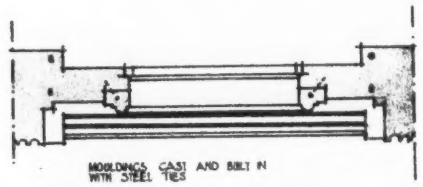
: I.—ST. JOHN THE EVANGELIST, WESTMINSTER.



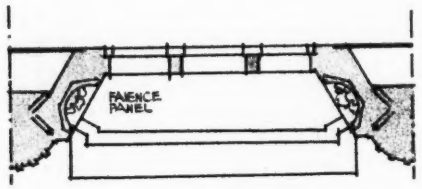




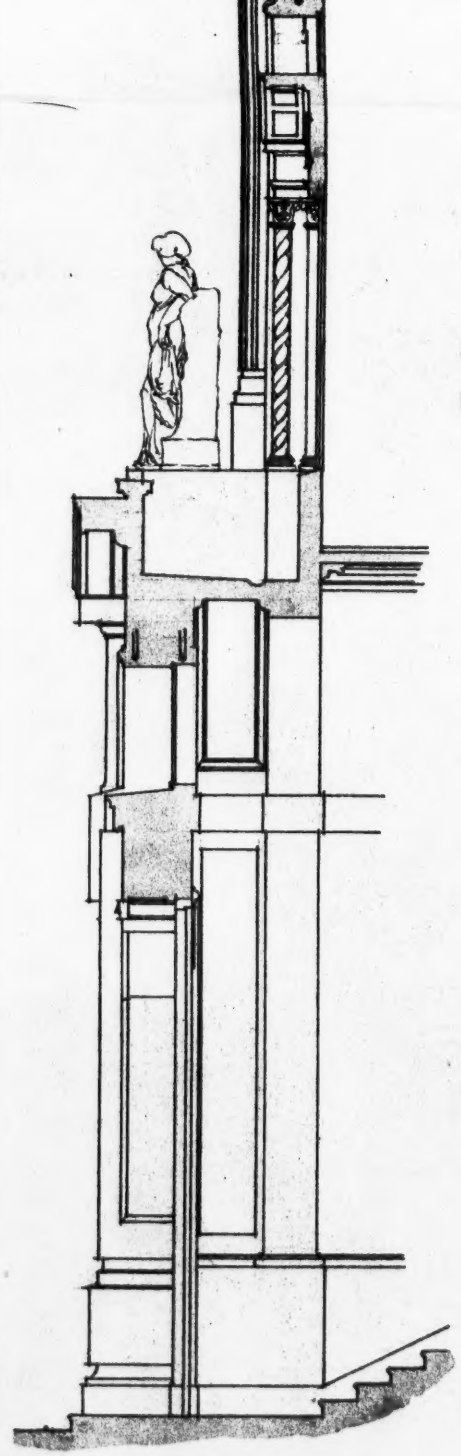
PLAN OF PARAPET.



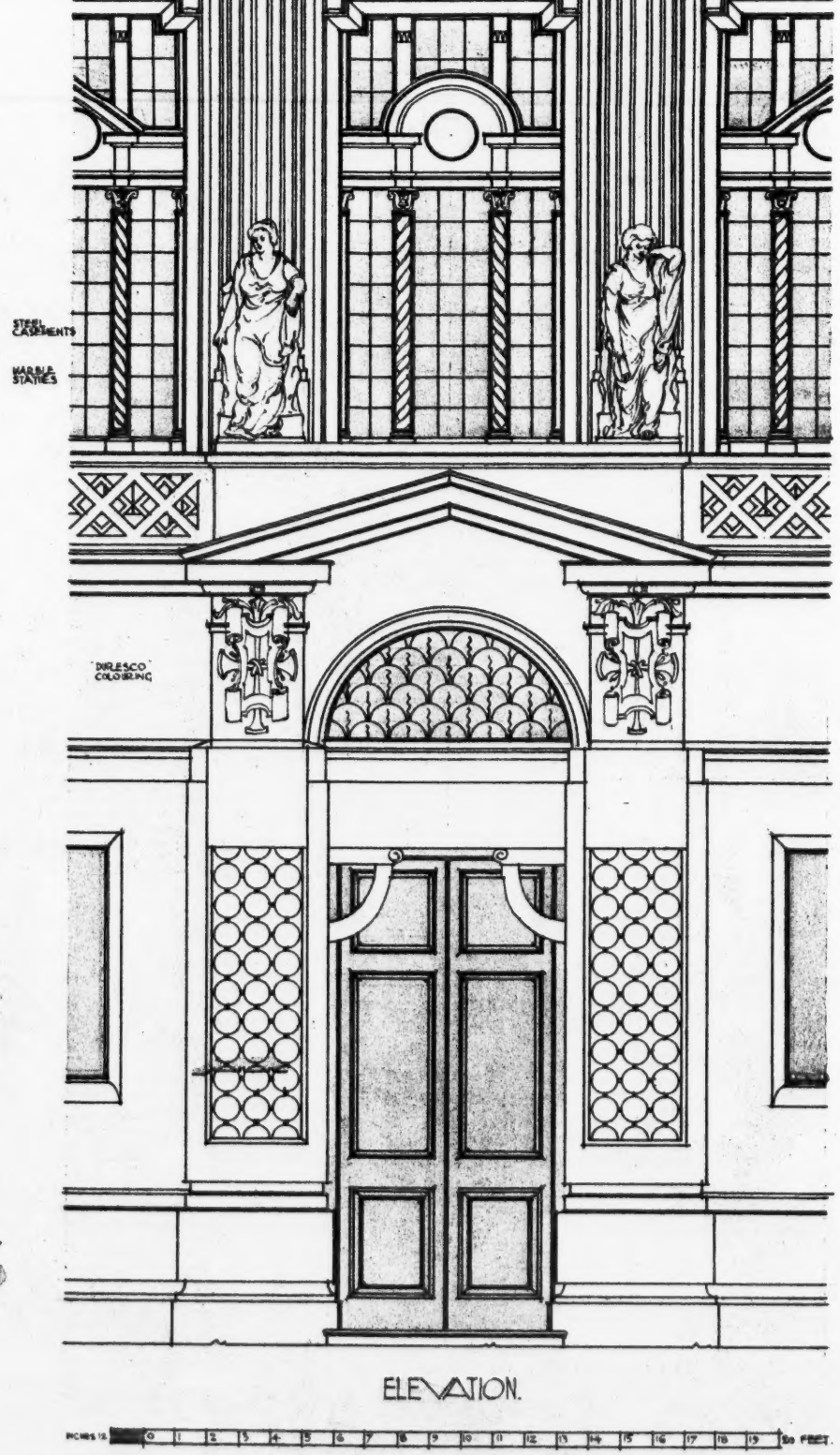
THIRD FLOOR PLAN.



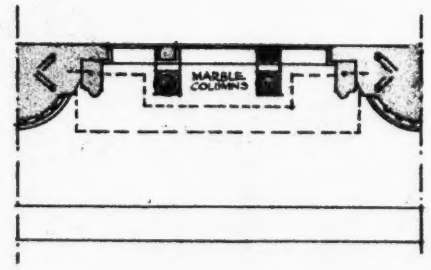
SECOND FLOOR PLAN.



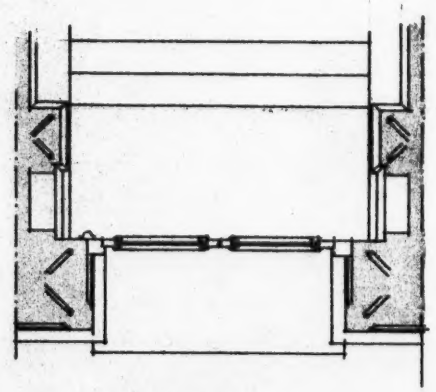
SECTION.



ELEVATION.



FIRST FLOOR PLAN.



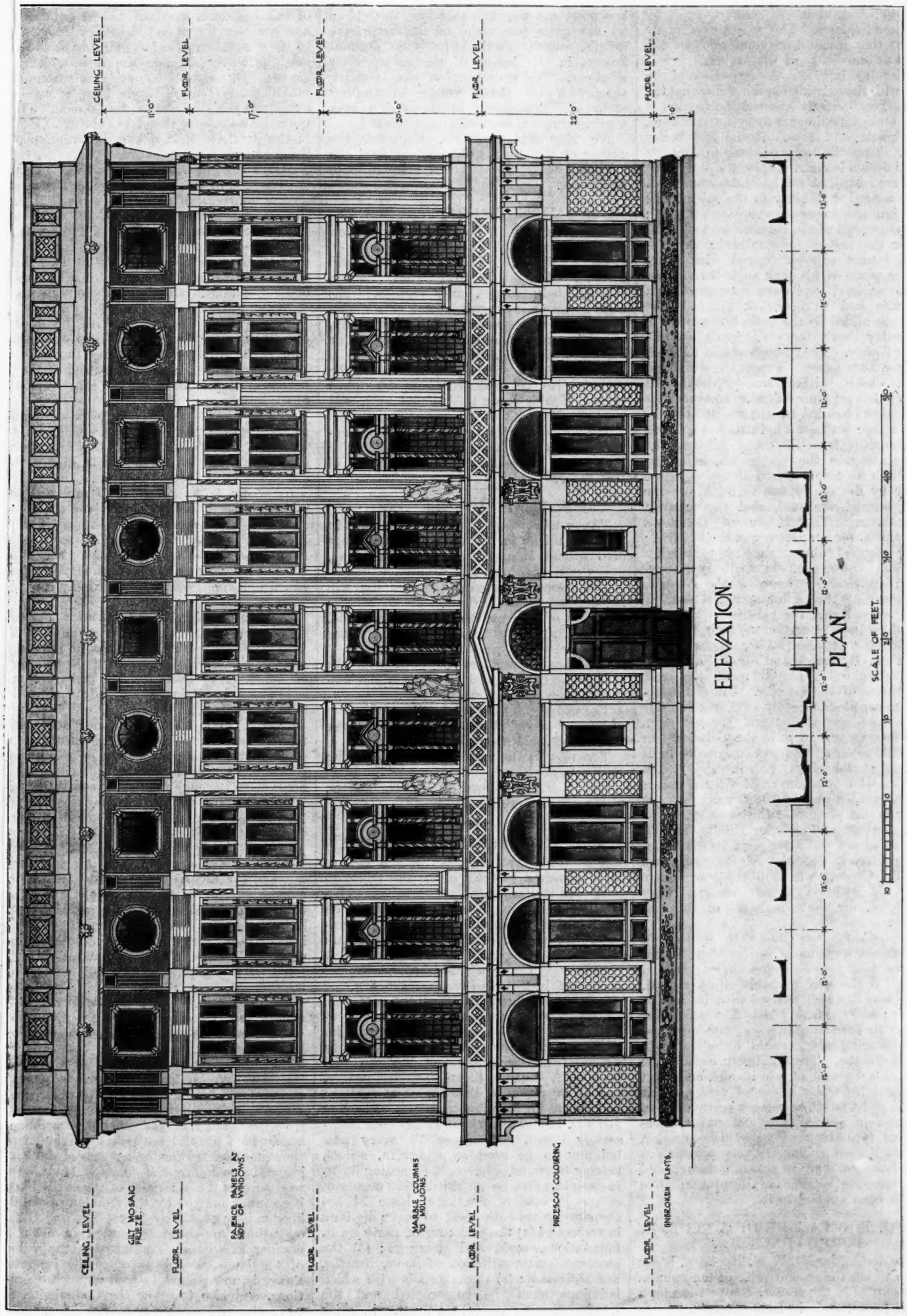
GROUND FLOOR.

BUILDER COMPETITION FOR A FAÇADE FOR A CLUB, IN FERRO-CONCRETE. SECOND PRIZE. By Mr. J. W. Hepburn, A.R.I.B.A.

DETAIL ELEVATION.

We commence with one which is among e most familiar to sight, St. John's, Westinster, the four towers forming a conicuous object from the river and from the lbert Embankment, though there are comparatively few who find their way, except on Sundays, to the nearly deserted square in which the church stands.

The church was built (see the Act 1 Geo. II., second session, c. 15) in 1721-8, at a cost, says Allen in his "London," 1828, of 40,000*l.*, for a parish which had been taken out of St. Margaret's. It stands in Smith-square, in the midst of a quarter wherein considerable alterations, with rebuilding,



"Builder" Competition for a Façade for a Club in Ferro-Concrete. Second Prize. By Mr. J. W. Hepburn, A.R.I.B.A. General Elevation (see page 40).
(For Detail Elevation see Lithograph Plate.)

have been recently effected. It was the second of the "fifty churches" erected by the Commissioners to whom Sir John Vanbrugh (*obiit* 1726) was surveyor. He entrusted the design to his pupil, Thomas Archer. There are two noteworthy prints in the "Crowle" Pennant, with an epigraph, thus:—

"Mr. Archer's design of St. John's Church in Westminster, as it was resolved upon by the Commissioners. The alterations made since to this design were done without the consent or knowledge of Mr. Archer."

Archer died in 1743. A comparison of the prints with the existing church shows that the "alterations" chiefly affected the treatment of the broken pediments over the porticoes, the stylobate, and steps, and the four belfry towers. That the towers belong to Archer's original design is clear, despite the story that they were added, as the building progressed, to give a needed stability to the edifice. In his design the towers are square on plan; his arrangement of the columns and entablature for the towers was modified; the bell-shaped leaden cupolas capped with cones take the place of his four angle-turrets, for each tower, having pilasters connected by a balustrade and with obelisk finials. The model was added to the collection stored in the chantry above Henry V.'s tomb in Westminster Abbey. The fabric was tied together with iron bars passed through the walls and columns both within and without—the external tie-bars are retained. Elmes writes that Archer intended to add a central tower with a spire; perhaps a light timber spirelet, or flèche rising from the roof. Allen speaks of a painting in the vestry which depicts the church as before the destruction of the interior by fire on September 20, 1742; the flames burned the roof, and the grouped angle-columns. The House of Commons voted 4,000*l.* for a reparation of the building; but the grouped columns were not replaced.

William Inwood made some rearrangements; in 1825 he removed the columns for supporting the ceiling and increased the seating capacity in the galleries, which had been added in 1758, and on the floor, for from 1,200 to 1,800 persons. After another fire in 1850, P. C. Hardwick and Sir Arthur Blomfield carried out a partial restoration and redecoration of the interior. Under Butterfield's superintendence, in 1885, the interior fittings were remodelled and the old pews were taken away, except in the galleries. In 1840 Hill rebuilt the organ (originally built in 1727); the font (April, 1847) was sculptured by John Thomas, after a design by Sir Charles Barry. In 1827 was presented a copy of the picture of Christ carrying the Cross, ascribed variously to Ribalta and to Moralez, above the altar-piece in Magdalen College Chapel, Oxford. Ninety years ago Mr. T. Green, of Millbank-row, gave some old painted glass, brought from Normandy, for the side lights of the east window.

The building has been the subject of criticism on account of its peculiar design, with the four towers at the angles; Ruskin having led the way with his gibing remark that it was like an elephant with its legs in the air; a criticism which has no better foundation than Ruskin's constant desire to say something which would be effective in a literary sense. The architecture shares the conventional classic idea of its age, and must be judged from that point of view; but it has the great merit of being a really original invention in architecture, and not a mere piece of formal Classic; and the interior, with its domed ceiling, is very effective in general design, and is worth a better and more effective scheme of decoration than has yet been applied to it.

DESIGN FOR FAÇADE OF A CLUB, IN FERRO-CONCRETE.

THIS design, by Mr. J. W. Hepburn, is the one to which the second prize of ten guineas was awarded in the *Builder* competition for a design for a façade in ferro-concrete.

As before observed, there was considerable difficulty in awarding the second premium, three or four designs presenting about equal merit in various ways. But in this design the treatment of the pilasters, and of the pulvinated secondary cornice running across the second floor windows, shows a novelty in invention quite in keeping with the material; and generally speaking the design is a good and well balanced one, though we do not quite like some of the decorative details, more particularly the pendant flowers in the jambs of the second floor windows. The main cornice, too, is rather too much the stone cornice in another material. The merits of the design as a whole, however, over-ride its defects.

We may add that Mr. Hepburn, the author of the design, obtained in 1904 the "Grissell Gold Medal" of the Institute of Architects.

ALL SAINTS' CHURCH, BEDFORD.

THIS church is to be erected in the new part of the county town of Bedford.

The building, when completed, will contain, besides the tower, nave, aisles, chancel, lady chapel, and vestries. The main feature is the arrangement of the west end so as to have good entrance for weddings, etc. The nave roof will be of oak of the hammer-beam type.

The accommodation is for 1,000, and the materials to be used will be pricked red bricks, Weldar stone (inside and out), and local red tile roof.

The joint architects are Sir A. W. Blomfield & Sons and Mr. George P. Allen. The building is to be started in the spring of this year.

SCHOOLS, MIDDLETON.

THESE schools are proposed to be built in thin red bricks for all walls, with dressings of Portland stone to doorways, windows, upper part of towers, and copings.

The floors throughout the building will be of concrete, covered with maple boards; the roofs of concrete, covered with asphalte. The heating is to be by the low-pressure hot-water system.

The three towers are to be used for the extraction of the foul air from the class-rooms, halls, etc., by electric fans.

The site slopes from west to east, the floor of infants' school being 5 ft. 6 in. below the main block, and about 5 ft. above road.

The view is from a water-colour drawing by Mr. Edgar Wood.

Messrs. Edgar Wood & J. H. Sellers, of Manchester, are the architects.

PRIVATE BILLS IN PARLIAMENT.

A HUNDRED AND THIRTY-THREE Bills have been deposited in the Private Bill Office to come before Parliament next session, and a number of them involve expenditure on constructive works of considerable magnitude. Amongst other matters dealt with are the following:—

Oldham Corporation.—The estimates scheduled in this Bill include 198,000*l.* for street improvements, 200,000*l.* for gasworks, 130,000*l.* for waterworks, 17,550*l.* for tramways and waiting-rooms, and 2,000*l.* for street sewers. Amongst the streets to be widened are High-street and Market-street. Part VIII. deals with buildings and sewers, and it is provided that no street shall be laid down for building purposes exceeding 120 yds. in length without at least one intersecting street. By clause 73 every new building to be used as a tavern, school, lodging-house, or public hall, exceeding 35 ft. in height must be provided with means of escape in case of fire. By clause 74 the Corporation are authorised to make by-laws in respect of (*a*) the structure of party walls, foundations, roofs, and chimneys; (*b*) the structure and ventilation of floors, hearths, and staircases; (*c*) the materials with which buildings shall be constructed and the quality thereof; and (*d*) the manner in which the materials of which grates, stoves, and fireplaces shall be set in buildings. Clause " deals with the area of inhabited houses, and there must be one living-room with a floor area of not less than 120 sq. ft., and one bedroom with a floor area of not less than 120 sq. ft., whilst no other inhabited room must have a less floor area than 80 sq. ft.

Watford Urban District Council.—Part of this Bill deals with streets and buildings and contains the model clauses with regard to the prevention of *cul-de-sacs* and as to the local authority defining the future line of streets. By clause 53 the elevation of buildings erected on front land is to be subject to the approval of the Council. The Council also ask for power to expend 90,100*l.* in the purchase of land and construction of waterworks.

Slough Urban District Council.—A clause is contained in this Bill prescribing the floor area of houses, similar to that in the Oldham Bill, except that the area so laid down is smaller, viz., one living-room of 115 sq. ft., one bedroom of 110 sq. ft., and other habitable rooms of not less than 70 sq. ft. The Council take power to erect a town hall and other buildings, but the Bill contains no estimate of the cost.

Crystal Palace Company.—With the object of assisting the Company to keep open the Palace the directors are asking the Public Works Loan Commissioners to lend 50,000*l.* on mortgage for the repair and improvement of the structure.

Central London Railway.—Power is sought to extend the railway from the Mansion House to Liverpool-street, and to construct subways which will give access to Liverpool-street and Broad-street Stations.

Grantham Waterworks.—It is proposed to raise a further 40,000*l.* capital for the construction of new works.

London County Council (Tramways and Improvements).—The estimates in this Bill are 638,500*l.* for tramways and 451,500*l.* for street widenings, etc., in connexion with the tramways.

London County Council (General Powers Bill).—One of the chief powers sought in this Bill is the amendment of the London Building Act, by which will be permitted the erection of buildings of iron or steel construction subject to certain prescribed conditions (which appeared in the *Builder* of December 19); and to enable the Council to make regulations with respect to the construction of buildings wholly or partly of reinforced concrete. Power is also sought to enable the Southwark Borough Council to construct the "Elephant and Castle" subway; to enable the Kensington Borough Council to do certain street works; to widen Woburn-place and Upper Woburn-place, etc.

Liverpool Corporation.—The principal proposal in the Liverpool Corporation Bill is to enable vehicles to be run on the trackless trolley system wherever the Corporation now have power to run tramways. It is also intended to make a new street in continuation of Queen's-drive, Wavertree, and to widen Childwell Priory-road, at an estimated cost of 30,000*l.*

Malvern Hills.—The preamble of this Bill recites that by a decree of the Court of Exchequer in the seventh year of the reign of King Charles I. the waste or commonable lands, consisting of the Forest or Chase of Malvern were divided, and one-third was appropriated by the King, and the other two-thirds were to continue for the commoners. Notwithstanding, encroachments were made, and in 1884 the Malvern Hills Commissioners were incorporated for the purpose of protecting and controlling the common lands. Of recent years the amenities of the lands have been much marred by the erection of buildings and by quarrying operations, and these operations are being extended in such a manner as to seriously threaten the value of the lands as objects of public interest. Power is now sought to restrain such operations, and also to allow the Commissioners to master and repair the Jubilee-drive.

stoves, a
s. Clause
l houses, a
with a flo
ft., and o
ot less th
abited ro
80 sq. ft.
il.—Part
nd buildi
with reg
and as to
ture line
elevation
nd is to
Council. Th
pend 90,100
nstruction

il.—A claus
ing the floo
the Oldha
laid down i
f 115 sq. ft.
other habit
sq. ft. Th
own hall an
contains n

th the objec
eep open th
g the Publi
lend 50,000
improvemen

wer is sough
the Mansio
to construc
to Liverpool

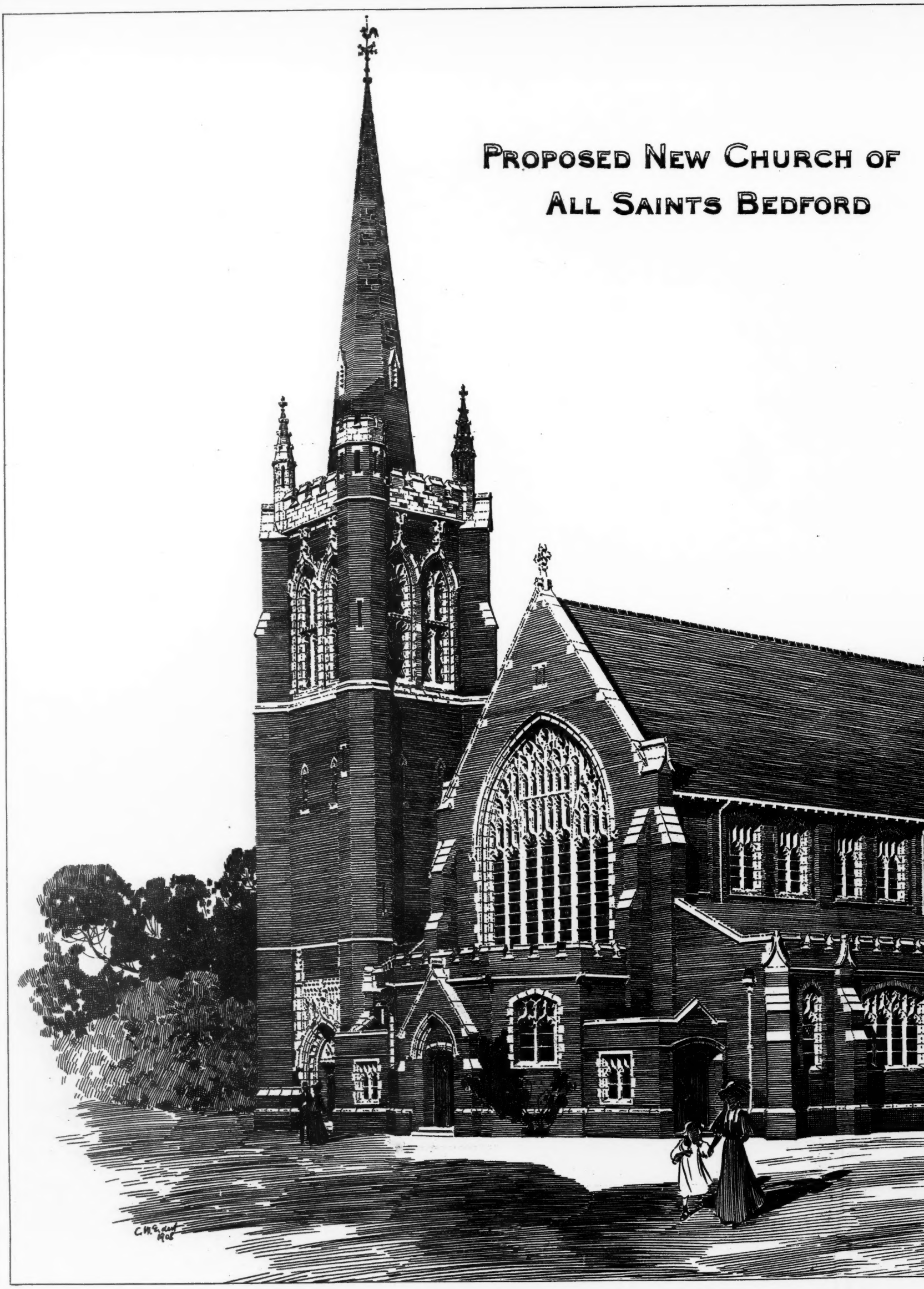
proposed t
for the con

amways an
in this Bi
451,500*l.* fo
ion with th

neral Power
ought in thi
don Building
the erectio
construction
l condition
of Decembe
cil to mak
construction
of reinforce
to enable th
construct th
y; to enabl
ncil to d
en Woburn
etc.
principal pro
ion Bill is t
the trackless
poration now
It is also
continuation
nd to wide
nated cost o

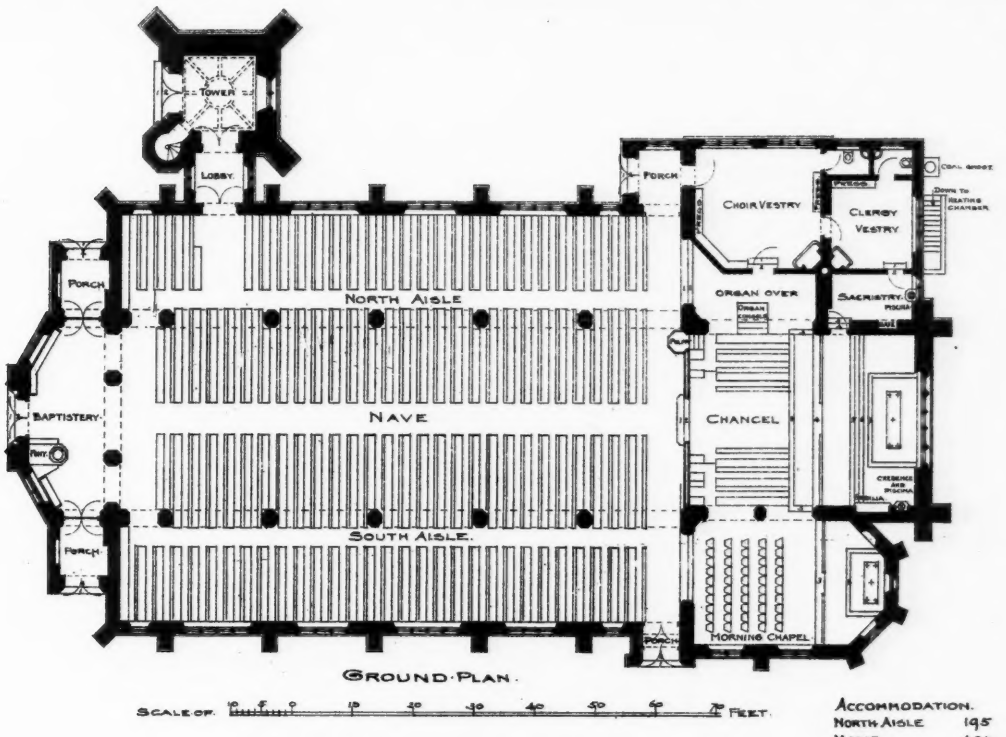
e of this Bi
he Court o
f the reign o
commonable
or Chase o
ne-third wa
he other two
commoners.
s were made,
ommissioners
se of protect-
n lands. Of
e lands have
sion of build-
ns, and these
l in such
en the valu
blic interest
such oper
ommissione
e-drive.

PROPOSED NEW CHURCH OF ALL SAINTS BEDFORD



RCH OF

FORD



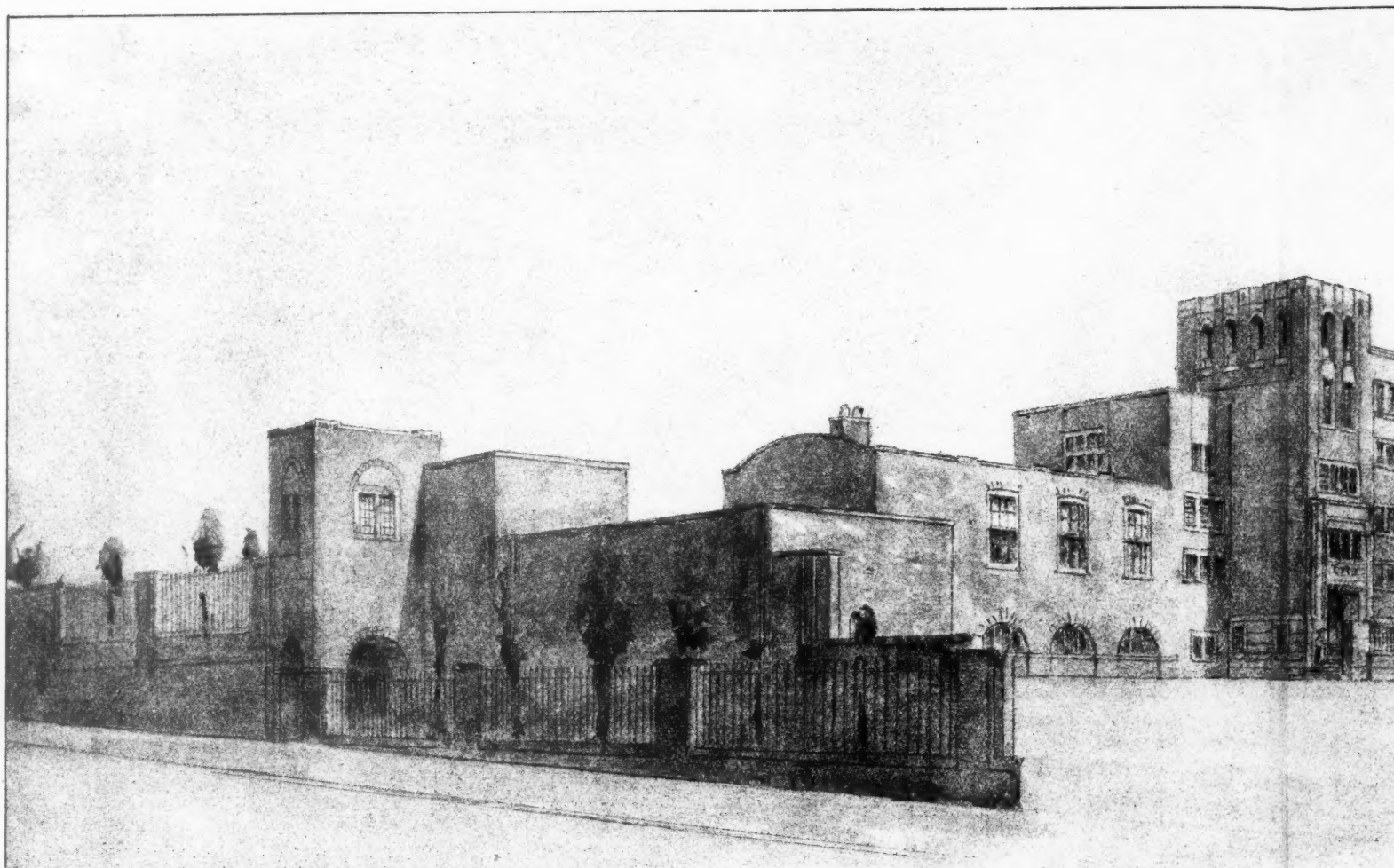
GROUND-PLAN.

SCALE OF 10 5 0 10 20 30 40 50 60 70 FEET.

ACCOMMODATION.

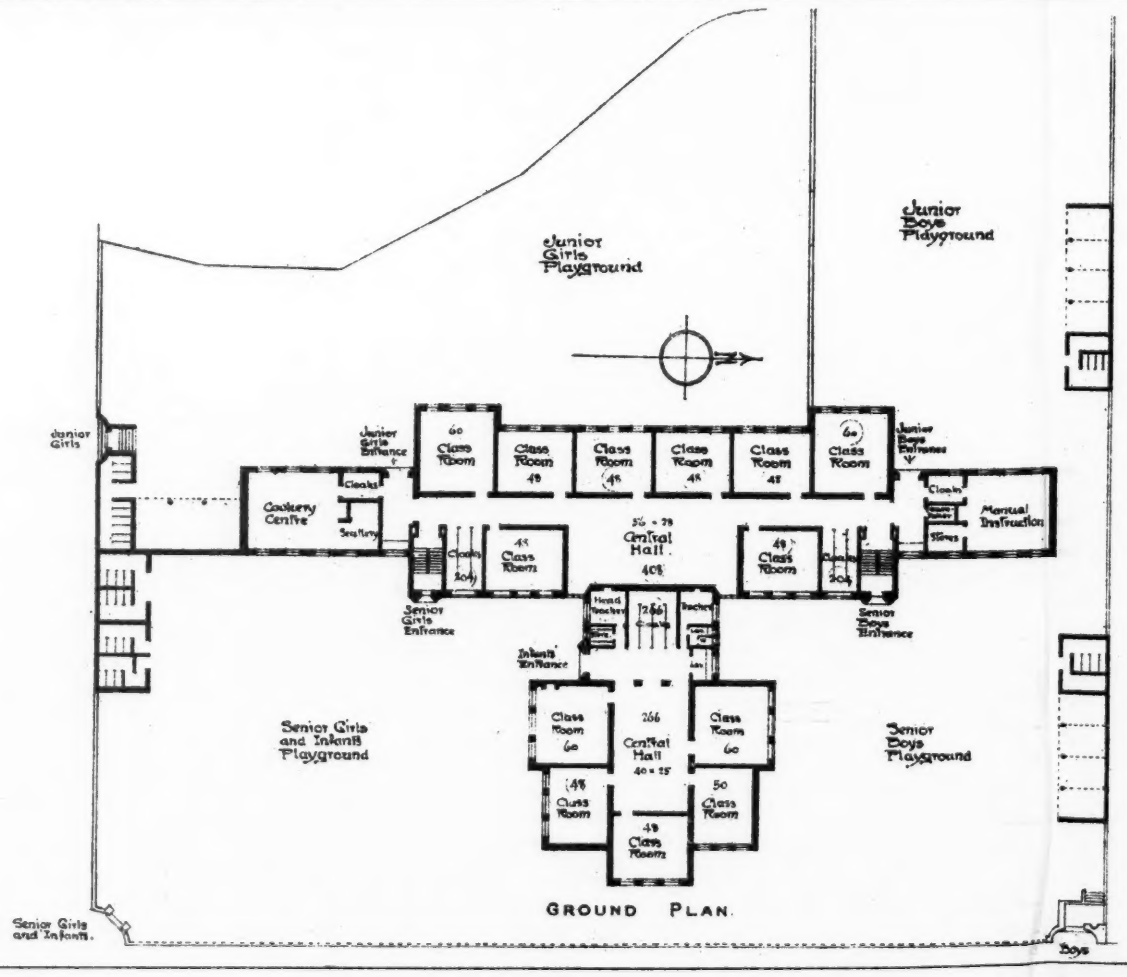
NORTH AISLE	195
NAVE	494
SOUTH AISLE	212
CHAPEL	50
CHOIR MEN	28
" BOYS	18
CLERGY	3
TOTAL	1000

Arthur H. Blomfield & Sons
Geo. P. Allen.
} Joint Architects

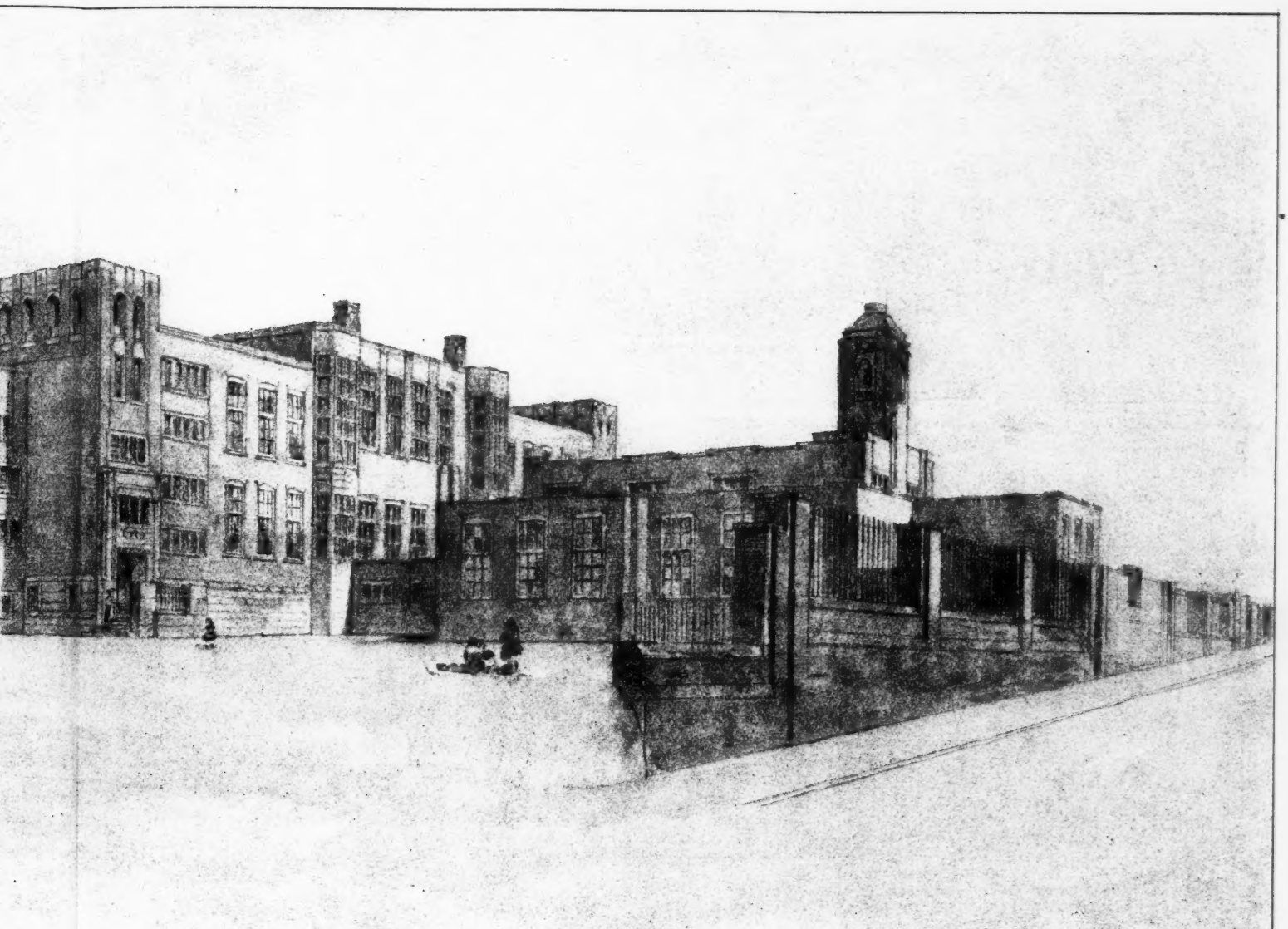


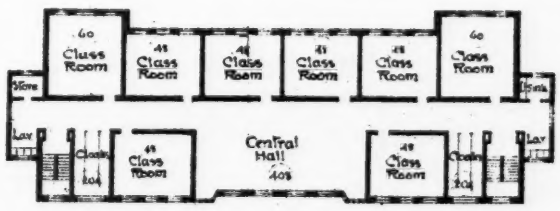
BOROVGH OF MIDDLETON ELEMENTARY SCHOOLS

Edgar Wood & J. Henry Sellers Architects



GROUND PLAN.





FIRST FLOOR PLAN.

Hastings Harbour.—This Bill is the same as that promoted last year, for the revival of powers to complete the harbour works authorised some years ago, and which have been in abeyance owing to the inability to raise funds.

Bradford Corporation.—Street widenings to cost 61,626*l.* are proposed by the General Powers Bill. Part IX., which deals with streets and buildings, authorises the local authority to prescribe the width of a new street likely to form as main approach to the city as 80 ft. If they ask for greater width, the owner can be compensated. Sect. 58 provides for the Corporation permitting the laying-out of any area of land in the city on the "Garden City" principle.

Bury Corporation.—Part II. deals with building regulations, and defines what shall be deemed as new buildings after the passing of the Act. Every person intending to erect a new building must deliver complete plans and sections of every floor, and also plans of the drainage. Clause 138 provides that in all new buildings every habitable room shall be not less than 8 ft. 6 in. in height; at least one living-room must have a floor space of 115 sq. ft., one bedroom 110 ft., and no habitable room shall be less than 70 sq. ft. Part XII., dealing with streets, sewers, and drains, prescribes the width of every new road to be of not less than 36 ft., while Part XVI. provides that furnaces in factories, etc., shall be so constructed as to consume their own smoke.

Greenock Corporation.—Power is taken to expend 20,000*l.* on the erection of a dust destructor and 12,000*l.* for baths and washhouses. By clause 169 new streets are to be laid out to a width of not less than 50 ft. Part XV., dealing with buildings, provides that application must be made to the Dean of Guilds before any buildings are altered or erected, and the plans and sections submitted shall be drawn in ink to a scale of not less than $\frac{1}{8}$ in. to every foot in the case of dwelling houses, etc., and not less than $\frac{1}{16}$ in. in the case of public works. No dwelling-house is hereafter to be built unless it is, exclusive of lobbies, closets, and recesses, of the following dimensions:—(*a*) Dwelling-houses of one apartment, 1,000 cubic ft.; (*b*) of two apartments, 1,600 cubic ft.; and (*c*) of three apartments, 2,400 cubic ft. Theatres, music-halls, and places of entertainment to accommodate more than 1,000 persons shall not be built unless they are on three sides at least 15 ft. from the closest buildings.

Sheringham Urban District Council.—The District Council are seeking to obtain model clauses with regard to defining the line of streets, the provision of separate sewers for surface water and sewage, etc.

Wembury (Plymouth) Commercial Dock and Railway.—By this Bill it is sought to incorporate a company with a capital of 2,500,000*l.*, to construct docks in Wembury Bay. The idea is to construct three sea walls enclosing an area of over 1,000 acres. Two graving docks, each 1,000 ft. long, are to be included in the design.

Shrewsbury Corporation.—The local authority seek to construct a weir across the Severn, 180 ft. in length, with the idea of increasing the quantity of water in the river and the sanitary condition of the town.

Thames Tunnel.—To authorise the London County Council to construct a tunnel for foot passengers under the Thames between North and South Woolwich.

Folkestone Corporation.—An estimate of 15,000*l.* is given for the purchase of land and construction of concert halls, and power is given to the Corporation to acquire on lease the Leas shelter, and to extend and improve the same by the provision of reading-rooms and sanitary conveniencies. By Part III. the model clauses are inserted for preventing *cul-de-sacs*, preventing the erection of buildings before streets are defined, etc.

East Sussex County Council.—To empower the County Council to construct groynes and sea defence works in Rottingdean for the protection of the road, with the intercepting sewer thereunder between Brighton and Rottingdean.

Derwent Valley Water Board.—Owing to geological difficulties this Board, which consists of the Boroughs of Derby, Leicester, Nottingham, and Sheffield, have been unable to complete the Howden and Derwent Reservoirs, and are seeking to construct a deviation aqueduct.

Cardiff Corporation.—New waterworks, estimated to cost 272,000*l.*, are proposed in this Bill, and the Corporation, amongst other things, take power to transfer the contents of the Cardiff Museum to the National Museum of Wales.

Brighton Casino and Marine Palace Company.—To incorporate a company and construct a marine palace pavilion and winter garden.

Heywood Corporation.—Power is taken to prescribe that every new dwelling-house shall have one living-room of a floor area of not less than 115 sq. ft. and one bedroom of not less than 110 sq. ft., and no habitable room shall have a less floor space than 70 sq. ft. By Part VII. the Corporation may order houses to be drained by combined drainage. The Corporation also propose to expend 9,000*l.* in the construction of a new road between Heywood and Middleton.

Great Yarmouth Corporation.—Estimates of 16,000*l.* have been framed for buying land and constructing works for improving the quays.

Harwich Docks.—Proposal to incorporate a company with a capital of 1,065,000*l.*, and construct a sea wall, open dock, and two graving docks at Harwich.

Mountain Ash Urban District Council.—Authority is asked to erect cottages for firemen, and under Part V. of the Bill, dealing with streets and buildings, it is provided that every new street shall be provided with a back passage of not less than 10 ft. wide, and no new street shall be more than 150 ft. without an intersecting street; courts are to be flagged, and every dwelling-house is, after the passing of the Act, to have a separate water-closet. A clause dealing with the peculiar character of the district provides that in the case of new buildings erected on sites where by reason of mining operations there may be a subsidence the Council may prescribe the level at which the ground floor of such building is to be.

Plymouth Pier and Winter Gardens.—By this Bill a company, to be formed with a capital of 60,000*l.*, seeks to acquire the Plymouth Promenade Pier and Pavilion, and extend them by the erection of winter gardens, swimming baths, skating rinks, etc.

Southend Corporation.—The local authority propose spending 160,000*l.* on improving the drainage. The effluent will be discharged into the sea, but provisions are to be made for seeing that it reaches a certain standard of purity.

Salford Corporation.—Street works to cost 70,000*l.* are contemplated under this Bill, and power is taken to appropriate an acre of Peel Park for the purposes of the Technical Institute or the Municipal Secondary School. In the case of new houses it is provided that one room on the ground floor and one on the first floor shall have a floor space of not less than 120 sq. ft., and no habitable room shall be less than 70 ft. Regulations for preventing the smoke nuisance are also included.

Wakefield Corporation.—This authority takes power to expend 150,000*l.* on the completion of its waterworks.

Wallasey Improvements.—The Corporation seek to provide concert halls, etc., at an estimated cost of 31,900*l.*, with 2,000*l.* for the equipment. They also propose spending 32,050*l.* on street improvements.

South Staffordshire Waterworks.—The company ask for power to raise 300,000*l.* by issuing new capital, and also to make pumping stations, etc.

Northallerton Urban District Council.—Authority is sought to construct a new reservoir in the Oak Dale Beck, at an estimated cost of 14,040*l.*

Manchester Royal Exchange.—This company is asking for power to extend the premises of the Royal Exchange, and to carry this out it will be necessary to stop up certain streets. In substitution it is proposed to construct a new street from St. Ann's-square to Cross-street, which will run nearly parallel with Bank-street.

Manchester Corporation.—It is proposed to expend 249,600*l.* on the street improvements which are set out in this Bill. Altogether nineteen projected works are set out, the greater number of which are in North Manchester. It is also proposed to spend 125,000*l.* on the construction of storm relief sewers in Stratford. Under Part VII. of the Bill a clause deals with buildings of iron, steel, or reinforced concrete, to the effect that the Corporation may relax or modify the existing by-laws, and allow such buildings to be constructed according to the plans, sections, and elevations approved by them.

Midland Great Western Railway of Ireland.—Amongst other things the company seek to drain the Broadstone branch of the Royal Canal, Dublin, and let the land on building lease for a term not exceeding 150 years.

London and South-Western Railway.—The Bill of this company contains proposals for the construction of a graving dock, sea walls, and channel in the Urban District of Itchen, Southampton.

Lisburn Urban District Council.—This Council proposes to erect an abattoir, at a cost of 2,000*l.*, and spend 5,000*l.* on the water undertaking. Part IV. of the Bill deals with streets and buildings, and contains the model clauses for defining the building line, the flagging of courts, and the erection of buildings to a greater height than adjoining buildings.

Legal Column.

The Patents Act.

The statement of the United States Consul at Glasgow, recently published in the *Times*, that for the purposes of sect. 27 of the Patents and Designs Act, 1907, it will suffice if parts of a machine are made abroad, and then the parts are "assembled" or put together in this country, has perhaps caused undue perturbation in this country.

The grounds upon which the revocation of a patent may be applied for are "that the patented article or process is manufactured or carried on exclusively or mainly outside the United Kingdom," and the question of fact to be determined by the Comptroller is whether the article is manufactured or the process is carried on to an adequate extent in the United Kingdom.

In the absence of authority it is impossible to lay down with certainty the principles that will be applied to the determination of the question of fact, and the word "mainly" is one of those vague expressions which have recently crept into Acts of Parliament. It appeared in the Workmen's Compensation Act, 1900, applying to workmen employed "mainly in agriculture," but has received no certain judicial interpretation. The dictionary meaning, however, is "chiefly" or "principally." It is to be observed that in considering the question whether an article is manufactured or a process carried on "to an adequate extent in the United Kingdom," the whole section has to be regarded, and these words may be held to be governed by the preceding words "mainly outside the United Kingdom," so that the extent must be such as to turn the scale in favour of this country, and make the "main" operation that carried on here.

The mere assembling of component parts, even if it be "manufacturing at all," which seems very doubtful, would certainly not constitute the article "mainly manufactured" in this country, or to an adequate extent to satisfy the section. It may be observed that the American Consul's

observations were limited to the manufacture of machines or parts of machinery, but what is more likely to foster industry here is the carrying on of processes as to which evasion is not so easy. The interpretation of the Act as suggested above, if adopted by the Courts, will show the question now raised to be a "mare's-nest."

TRADE DISPUTES.

The case of Smithies *v.* National Association of Operative Plasterers and others, which we commented upon in our issue June 20, has been carried to the Court of Appeal, where the decision of the Court below, as far as the liability of the union was concerned, was reversed, and the union was held liable. The case is, however, unfortunately of but historic interest, as the writ was issued before the Trade Disputes Act came into force, and the union could not claim the protection of that Act. It was one of those cases where, because an employer employed a man who was not a *persona grata* with the union and who had not paid a fine some time previously whilst he was in other employ, the union had called out the employees employed by his present employer, and had caused them to break their contracts. The Lord Chief Justice had held that the union had called out the men under the impression that the employer was not complying with a conciliation agreement, and the Court had absolved them from liability for that or for paying strike pay to the men who had broken their contracts. The Court of Appeal held that this would not afford a justification for calling out the men, and considered the relationship of the union and the Branch Association in considerable detail. Had the Act come into force there can be no doubt that the Courts could not have entertained this action at all, as what was done was undoubtedly performed "in contemplation or furtherance of a trade dispute," and the employer would now be left without remedy. For a detailed criticism of the operation of this remarkable statute we may refer our readers to the judgment of Lord Justice Farwell in the case of Conway *v.* Wade ("Law Reports," December, 1908). The facts in that case were much the same, except the defendant was a district delegate acting without authority from the executive of the union and the plaintiff was a workman, but the Court was constrained to hold that the statute protected his action. Lord Justice Farwell pointed out that the defendant, who was not a workman, threatened to call out the man's fellow-workmen to compel the man to pay a fine of trifling amount more than seven years old, with the effect of depriving the plaintiff of all work or chance of work, contemplating with indifference the result that the plaintiff in consequence must starve or go to the workhouse. The Lord Justice then pointed out that although the law had from time immemorial jealously protected the freedom of the individual and the right to dispose of capital and labour, the object of sect. 3 of the Trade Disputes Act was to stir up strife between employers and workmen and workmen and workmen, and that priest or politician, alien or native-born, those interested in the trade, or mere busybodies, were by that section protected as long as they acted in contemplation or furtherance of the dispute, but that the peacemaker alone was unprotected, as his object would be to put an end to it. His Lordship remarked that in former years it was possible for the Courts to defend individual liberty against the aggression of Kings and Barons, because the defence rested on the law which they administered, but that it is not possible for the Courts to do so when the Legislature alters the laws so as to destroy liberty. "The Legislature cannot make evil good, but it can make it not actionable." In the result, although the Lord Justice found that the defendant's action was "an unjustifiable molestation of the man, an improper and inexcusable interference with the man's rights of citizenship," the Court was unanimously constrained to hold that the remedy had been destroyed by the Legislature.

Since the decision as to the illegality of the Parliamentary Levy the individual members of the unions have had their eyes opened to the condition of oppression to which the operations of Trade Unionism are reducing them, and it is to be hoped that they will soon see that a repeal of the Trade Disputes Act is essential both for their own welfare and self-respect and for the maintenance of the trade of the country.

THE FAIR WAGES RESOLUTION.

The Departmental Committee appointed to report on the working of the fair wages resolution of the House of Commons of February 13, 1901, has recently issued its report. That resolution was to the effect that it was the duty of the Government, in all Government contracts, to provide against the evils of "sweating," and to secure the payment of such wages as are generally accepted as current in each trade for competent workmen.

Some of the trade unions suggested that the current rate of wages should be ascertained by compelling contractors to pay the trade union rate of wages and to observe the trade union conditions, but the Committee reported that such an amendment would not further the carrying out of the resolution. Where current rates of wages cannot well be ascertained owing to the trade being unorganised or the particular industry being isolated in the district, it is suggested that one or more of the following methods should be adopted :—

That the contract shall fix the rate of wages for the various classes of workpeople for the various operations.

That a minimum rate of wages shall be fixed.

That the question of wages shall be dealt with by the wages boards.

That the contractor shall furnish a schedule of rates of wages and hours of labour.

The municipalities, we believe, constantly adopt this latter method.

We are nowadays so accustomed to legislative interference with the freedom of contract being extended to persons of full age, that what would have startled our fathers ceases to surprise us, but some idea of the length to which matters can be carried can be gained from one or two suggestions put forward before the Committee. Some of the trade unionists desired to exclude women from working at all unless they were paid the same wages as men. It was also suggested that Government contracts should be restricted to what are termed by the unions "fair houses." The trade unions, from cases to be found in the "Law Reports," have sometimes considered the introduction of piecework to constitute a firm "unfair." The Committee, whilst rejecting these suggestions, recognised the principle that, where there is a standard rate of wages for certain work, piecework on similar operations should be remunerated at a higher scale.

The subdivision of work for which there is an ascertainable scale of wages into a number of sections was objected to by certain witnesses on the ground that it enabled less-skilled sections to be remunerated at lower rates, but the Committee overruled the objection, which, apparently, would have stereotyped methods of production and hindered the introduction of improved methods.

Although the Committee have refused to give effect to the views of extremists, the evidence at such inquiries shows an increasing tendency on the part of the representatives of the workers to regard this country as entirely insulated and solely dependent on insular trade, with an obliviousness of the fact that international trade is essential, and that it is slipping through our grasp, owing to the onerous conditions imposed by, or on behalf of, labour. The Government may grant restrictive conditions, but at the same time it must be remembered it holds itself entirely free to place its contracts in more favourable markets.

WORKMEN'S COMPENSATION—EMPLOYEES HOUSED ON PREMISES.

In the Workmen's Compensation Act, 1906, as there is no limit of locality limiting liability to employment "on or in or about" the undertaking, as in the former Acts, questions as to whether an accident has occurred "out of and in the course of the employment" involve considerations of considerable complexity. Thus the Court of Appeal have recently been divided in opinion in the case of Moore *v.* Manchester Liners, Ltd., where a seaman, having been on shore to buy personal necessaries, was killed whilst returning to the ship by a ladder. The majority of the Court held that as he had been on shore for his own purposes (whether with or without leave it was immaterial to consider) he had not sustained injury out of and in the course of his employment. Lord Justice Fletcher Moulton differed, and he likened the case to those cases which have occurred whilst a workman is going to or returning from work, or where an accident occurs in a dinner hour. We carefully considered these cases in our "Notes," November 2, 1907, and the opinion of the majority of the Court follows the general principles we there indicated. The above case and two others decided since we went into this question are of some importance to employers who house their employees. In McDonald *v.* Owners of Steamship *Banana*, where the circumstances were somewhat similar, but the only evidence was an entry in the ship's log stating that the man had met with a fatal accident returning up the gangway from the shore, the Court held that the applicant had not sufficient evidence to prove his case, this not being a place where the man would naturally be to fulfil his ordinary duties; but in Robertson *v.* Allan Brothers, Ltd., where a man had regained a ship, entering by an irregular means in order to escape observation, but having got on board met his death by falling down an unguarded hatchway, the accident was held by the Court of Appeal to have arisen out of and in the course of his employment. What, then, is the liability of employers towards employees who live on the premises? If employees go out on the employer's business they are within the Act wherever the accident occurs. If they go out without leave they are outside the Act. If they go out with leave but on business of their own or for pleasure they are outside the Act. So much is clear. The difficulty, as is pointed out by Lord Justice Moulton, involved in the above decisions arises as to when in the latter case—the servant out on his own business with leave—does he re-enter the premises and come within the Act? The logical deduction from Moore's case would seem to be—not until he is inside the house, as the man in that case was re-entering the ship by the ordinary means of access and one within the control of his employers. If the area steps are worn and the servant who is bound to return to the premises after absence on his own business slips and meets with an accident, is it reasonable that he should be excluded from compensation? If his contract of service necessitates residence on the premises, surely liability is incurred as soon as he enters any part of the premises under the control of the employer?

Engineering Societies.

THE JUNIOR INSTITUTION OF ENGINEERS.

At the last meeting of this Institution held at the Royal United Service Institution, Whitehall, Mr. Geo. T. Bullock, Vice-Chairman, presiding, a paper on "Motor Omnibuses," by Mr. Eric F. Boult, was read and discussed. The advantages of, and objections to, the various systems of ignition were set forth, and points with reference to the design of

big end bearings were touched upon. Engine-speed, clutches, cooling arrangements, and radiators formed the subject matter of succeeding sections of the paper, and questions relating to the different systems of final drive-chain, rack and pinion, worm-gear, etc., were then treated. Problems with respect to tyres were entered into, as well as those in connexion with petrol and carburettors, after which the vexed questions of depreciation and allowance for renewals were argued. As to the vehicle of the future, the author gave reasons for his belief that, while double-decked vehicles would continue in use for the main arteries of a system, those of the single-decked class would be largely introduced for the side routes, the whole worked on the "correspondence" plan.

As an appropriate prelude to the paper a visit to the shops of the London General Omnibus Company at Walthamstow took place on the Saturday afternoon previously, and was numerously attended. There are two large buildings, one being used as a coach factory and paint-shop, and the other (at present undergoing extensive alterations in view of the laying-down of a number of new machines) consists of the machine and erecting shop, view-room, and stores. The tools are representative of the leading makes of British and foreign manufactures, embodying the result of experience in the various lines of this industry. A feature that attracted notice was a converted planing machine, on which all driving pinions are milled automatically at a very low labour cost. On leaving the garage the members were shown over an adjoining factory which has just been erected for the Micanite and Insulators Company, affording an excellent illustration of the planning and laying-out of such premises.

Correspondence.

THE LATE MR. GRUNING.

SIR,—I am prompted to write this letter because I feel that enough has not been said of the great loss which has come upon all of us here in London, who are in any way connected with land and building, by the death of Mr. Gruning. As an architect he carried out many important works, mostly of a commercial character.

His buildings impressed all who saw them by the manner in which they fulfilled the purposes for which they were intended. The work itself was excellent and always free from the defects which sooner or later arise in buildings when cheapness is the principal object aimed at, and in setting his face against this course, there can be no doubt that Mr Gruning best served the interests of his clients.

In other branches of his work he will be greatly missed. It would be very interesting to ascertain, if it were possible, in how many building contracts his name appears as arbitrator. When contracts were being arranged the name that sprang spontaneously to the lips of those interested was always Gruning. That the unsurpassed confidence thus reposed in him was due to the widespread recognition of his eminent fairness, there can be no doubt. This confidence was such that when in those cases, fortunately of not too frequent occurrence, in which it became necessary to put into operation the arbitration clause, the losing side had the consolation of feeling that at least they had been before a man who, after all, was most likely to be right, although his views differed from their own.

In compensation cases, and in questions of light and air, his known experience and reputation for sound judgment impressed and commanded the profound attention of the bar, the bench, and all who heard him.

Mr. Gruning was a member of the Tribunal of Appeal, and it is to be hoped that the Royal Institute of British Architects will be able to fulfil the difficult task of finding a man of the same type of character to succeed him in this office, one important to all concerned in the building industry.

It had been a source of great sadness to notice during the last few months his failing health and strength, and all who knew him in business and in private life fervently hoped for his recovery, so that he might continue his great and useful career for a few more years; but it was not to be.

J. HOWARD COLLS.

5, Coleman-street, E.C.

AUSTRALIAN TIMBERS.

SIR,—The long list which you publish in last week's *Builder* of Australian and New Zealand timbers is of great interest, and exceedingly useful to all connected with the use of woods.

Having some experience of several of the Australian timbers quite recently, I should like to correct the statement under the heading of "Black Bean"—"That, owing to its greasy nature, this timber is not suitable for work wherein glue is used." As my firm erected a panelled room in this wood at the Franco-British Exhibition, under the direction of Mr. Arnold Mitchell, I can vouch for the extraordinary way in which the wood has withstood the extreme changes in temperature there, and that there were no signs of the wood having in any way moved. It is most thoroughly a wood for high-class joinery and furniture, and I am glad to say there is a nice stock of it in London. The only alternative I should like to suggest is that it should be called "Australian Bean," omitting the word "black," which is erroneous.

Other woods, some of which you mention, which are also in stock and are available for use are:—

Rosewood—particularly nice in every way.
White beech—most splendid for carving.
Silky oak, white oak, silk wood, and *spotted gum*, the latter most excellent for flooring purposes.

CLIFFORD C. TROLLOPE.

CUBICAL EXTENT OF BUILDINGS.

SIR,—Your correspondent, Mr. Mathieson, cannot have read his *Builder* carefully, or his letter would not have been written.

All the objections made by him have been met in the London General Powers Act, 1908, Part III. of which repeals sects. 75, 76, and 77 of the London Building Act, 1894, and provides for the erection of buildings exceeding 250,000 cubic ft. with the approval of the County Council on the report of its officers. This should be a great boon to certain firms requiring a large area.

HENRY LOVEGROVE.

ROYAL WARRANT HOLDERS.

LISTS of Royal Warrant holders, revised and corrected up to January 1, 1909, were issued this week from Buckingham Palace and the Lord Chamberlain's Office, St. James's Palace. The following appear in the list of General Sir D. M. Probyn, Keeper of the Privy Purse, of tradesmen, etc., to His Majesty:—Messrs. J. Allen & Sons, Ltd., building contractors, London; Baron & Curtis, Ltd., ironmongers, Poole and Bournemouth; Barnard, Bishop, & Barnards, Ltd., gates and fencing manufacturers, Norwich; W. H. Brown, builder and contractor at King's Lynn; W. H. Couperthwaite & Sons, ironmongers, King's Lynn; T. Crapper & Co., sanitary, warming, and ventilating engineers, London; J. Defries & Sons, Ltd., decorative illuminators, London; G. & T. Earle, Ltd., cement manufacturers, Wilmington; Gawthorp & Sons, art metal workers, London; Humphries, Ltd., iron building manufacturers, London; Johnson Brothers & Co., Ltd., manufacturers of iron fencing, London; Lambert & Sons, ironmongers, Snettisham; William Lock, plumber at King's Lynn; McKenzie & Moncur, Ltd., hothouse builders and heating engineers, Edinburgh; Pattrick & Thompsons, timber merchants, King's Lynn; Plowright, Pratt, & Harbage, ironmongers, King's Lynn; F. P. Potter, gate and hurdle manufacturer, King's Lynn; Pratchitt Brothers, manufacturers of pumping machinery, Carlisle; Pulham & Son, makers of terra-cotta and artificial rockwork, London; C. H. Rowe, plumber, glazier, and painter, London; J. Thompson & Co., building contractors, Peterborough. The list of Earl Beauchamp, the Lord Steward, contains the following names of tradesmen, etc., to His Majesty:—Messrs. Atky, Pascall, & Co., ironmongers, Cowes, Isle of Wight; Belshaw & Co., electric contractors, London; Edison & Swan United Electric Light Company, Ltd., electric lamps; London Electrical Power Storage Company, Ltd., electrical secondary cells, London; A. P. Lunsberg & Sons, electrical accessories, London; Maguire & Gatchell, Ltd., ironmongery, Dublin; James Slater & Co., cooking apparatus, London; Wem, Nicholls, & Co., ironmongery, Windsor; Wellman Brothers & Co., ironmongers, Windsor. The list of Viscount Althorp, Lord Chamberlain, contains the following names of tradesmen, etc., to His Majesty:—Messrs. Frederick Arthur, interior decorator, London; Adams & Son, ironmongers, London; The Bromsgrove Guild, metal workers, Bromsgrove; W. Brooks & Sons, carvers and gilders, London; P. E. Chappuis & Co., daylight reflector manufacturers, London; Chubb & Sons, Ltd., patent lock and safe makers, London; Clayton & Bell, glass painters, London; George Cooper & Son, decorators, glaziers, and painters, Windsor; William Coutts & Sons, decorators and painters, Aberdeen; Dent & Hellyer, sanitary engineers, London; Fountain, statuary masons, Eton; M. Feetham & Co., stove makers, London; J. Gorey & Son, ironmongers, Edinburgh; Heaton, Butler, & Bayne, artists in stained-glass, London; Hobbs, Hart, & Co., Ltd., strong-room doors and lock and safe makers, London; George Jackson & Sons, decorators in relief, London; George Jennings, Ltd., sanitary engineers, London; Felix Joubert, decorator, London; David McHardy, ironmonger, Aberdeen; Alexander Macdonald & Co., Ltd., workers in polished granite, Aberdeen; Minton, Hollins, & Co., manufacturers of encaustic tiles, Stoke-upon-Trent; J. Moore & Sons, ventilator manufacturers, London; Morant & Co., interior decorators, London; Needs & Co. (late Bramah), patent lock manufacturers, London; Perry & Co., lamp and lustre manufacturers, London; George Smith & Co., Ltd., joiners, London; Starkie, Gardner, & Co., workers in iron, brass, and bronze, London; Steinitz & Jefferies, parquet flooring manufacturers, London; Teale Fireplace Company, fireplace manufacturers, London; S. J. Wearing & Sons, decorators, London; John Warner & Sons, Ltd., bell and brass founders, London; R. Waygood & Co., Ltd., lift manufacturers, London; Wilson & Smith, ironmongers, London. Messrs. Comyn Ching & Co., gas fitters, London, appear in the list of tradesmen in the Department of the Master of the Horse. The following tradesmen, etc., have authority to use the Royal Arms and to style themselves "By appointment to the late Queen Victoria":—Messrs. Hodges & Sons, Ltd., ironmongers, Dublin; J. & G. Pierce, hot-water engineers, Richmond; J. B. Bennett & Sons, interior decorators and paperhangers, Glasgow; Garret & Haysom, statuary masons, Southampton; J. Milburn, chimney cowl manufacturer, Marlborough; C. W. Schmidt, varnish and enamel manufacturer, London; Tasker, Sons, & Co., telephonic and electric lighting engineers, Sheffield; G. Trollope & Sons, paperhangers, London; G. & E. Watts, painters, plumbers, and gilders, East Cowes, Isle of Wight; Wood & Horspool, ironmongers, Newport, Isle of Wight; Wright & Sons, workers in polished granite, Aberdeen.

PROJECTED NEW BUILDINGS IN THE PROVINCES.

BANFF (Scotland).—Conversion of Duff House into hotel (200,000*l.*). Mr. Van Praagh, managing director, care of Messrs. De Wynter & Co., Charing Cross-road, W.C.

Calne (Wilts).—School. Mr. C. H. Smith, architect, Chippenham.

Cambridge.—County school. Mr. H. Dunn, architect, Sydney-street, Cambridge.

Denton Bassett.—County school for Leicestershire County Council. Mr. C. Fowler, architect, 33, Bowling Green-street, Leicester.

Eastbourne.—Ten houses, Desmond-road. Messrs. Mitchell & Ford, architects, 7, Gildredge-road.

Additions to Holy Trinity Church. Mr. A. R. S. Fenning, architect, 46, Lincoln's Inn-fields, W.C.

Addition, Beach Laundry, Royal-parade East.

Eltham.—Sunday-school and mission-hall, Elibank-road. Building Committee of "The Brethren," per Mr. W. H. Smith, 5, Gt. Winchester-street, E.C.

Exeter.—Mineral water factory. Mr. R. M. Challice, surveyor, 14, Bedford-circus, Exeter.

Hungerford (Berks).—School. Mr. E. Fisher, Buckingham-street, Strand, W.C.

Lye (Worcestershire).—School. Messrs. H. Rowe & Son, County Surveyors, Worcester.

Longshoot.—Sixteen houses. Mr. W. Tattersall, architect, Haslingden.

Newbold Verdon (Leicester).—County school, for Leicestershire County Council. Mr. C. Fowler, architect, 33, Bowling Green-street, Leicester.

New Bilton.—Church Institute. Mr. J. Liddington, architect, Regent-street, Rugby.

Newton (Glos).—School. Mr. R. S. Phillip, architect, The Cross, Gloucester.

Nottingham.—Extensions to factory, for Messrs. William Hollins & Co., Ltd., 25 and 26, Newgate-street, London, E.C.

Northampton.—Additions to Roebuck Inn, Grafton-street, for Messrs. P. Phipps & Co., Ltd.; additions to 27, College-street, Trustees of the Baptist chapel; twenty-five houses, Wellingborough-road, for Sir Henry Randall; alterations and new warehouse, 148, Wellingborough-road, for Mr. C. Ruffhead.

Ruislip-Northwood. — Proposed post-office. H.M. Office of Works, Storey's-gate, Westminster.

Salford.—Conversion of premises, Blackfriars-road and Garden-lane, into public assembly-rooms; additions to dyeworks, Meadow-road, Higher Broughton; alterations to Gardeners' Arms, 9 and 11, Pendleton-street, Pendleton; alterations to Peeping Tom public-house, Regent-road.

Walthamstow.—Dining-rooms, Hale End-road, Mr. A. G. Barton, builder, Daventry Works, Walthamstow; factory, Pearl-road, Messrs. West Brothers & Pettet, builders, Pearl-road.

Warrington.—Administrative hospital block at Sankey, Mr. T. Longdin, Borough Surveyor, Warrington.

Winterbourne (Glos).—School. Mr. R. S. Phillip, architect, The Cross, Gloucester.

THE ENGINEERING TRADE.

MESSRS. MATHESON & GRANT'S "Engineering Trades' Report," for January 1 of this year, states that the depression that commenced in the autumn of 1907, after two years of general prosperity, continued and increased during 1908. The Private Bills deposited for public works for the coming session of Parliament do not indicate any great activity in this direction.

The trade in iron and steel structures has suffered from a variety of causes, some of which are likely to be permanent. Ambitious projects for large-span bridges are less frequent than a few years ago, but notable exceptions are found in the large bridges over the Nile (now in progress) and in the projected bridge over the Humber. The fashion of making large-span roofs for railway-stations no longer prevails, while for still smaller work, as that for theatres, hotels, warehouses, and market buildings, the tendency is towards the restriction as much as possible of the services of the middleman; viz., the constructor, who buys sectional steel and does the work of straightening, cutting, planing, drilling, riveting, and erecting. The variety of rolled sections, and especially the large sizes of beams and channels now available, diminish the need for such intermediary labour. Beams are now rolled up to 24 in. by 3 in., and a still wider kind, used frequently also as stanchions, are now rolled in special mills with 12-in. flanges. The architect and builder can, in many cases, get sufficient workmanship done at the rolling mills on these large sections, and make their designs accordingly. Large hotels and warehouses are made with a framework of such pieces, and, after the American fashion, are finished with stone or marble to give an appearance of solidity without occupying the space of thick walls, and though the American system of fictitious walls of tiles is not adopted, the architect, here as elsewhere, desires thin floors, and uses, with some lack of rigidity, shallow beams and flat concrete arches. The export still continues of bridges for the Indian and South American railways, and the demand for wharves, coal-conveyors, transporters, and storage hoppers makes up in some degree for slackness in other directions. The building trades at home have been in a more depressed condition than for many years past, and show little sign of improvement.

The number and diversity of the trades that come under the head of mechanical engineering forbid any general statement, but in regard to the majority of them the demands from abroad form the main source of employment, and even where this is not immediately apparent the satisfying of home requirements is largely due to the supply of parts, more or less finished, to those who complete the whole for shipment. A falling off in other departments has been balanced by a considerable increase in the export of textile machinery which has reached nearly 9 millions in 1908 as against 8 millions in 1907, and 6½ millions in 1906. The details of electric driving are being continually improved, and the respective merits of direct coupling of the motor to the machine, compared with transmission by belting or cotton ropes. But all those engaged in the manufacture of electrical machinery and equipments still complain of insufficient employment as well as of the keen competition to which they are exposed by the low prices of German and other competitors. But there are already signs of improvement in these respects. British factories have been rearranged, processes cheapened, and, with a slight increase in the total demands, it will be found that this country, having a free hand in the purchase of material and a sounder financial basis to work on than its continental rivals, will be able to hold its own and make a profit.

The electrification of railways, energetically commenced on suburban lines, proceeds slowly on other routes. Hesitation is not due to technical difficulties, but mainly to the considerable initial outlay involved, the difference of opinion regarding choice of systems and the high perfection to which steam locomotives have attained. The Engineering Standards Committee, established a few years ago under the auspices of the Institution of Civil Engineers, still continues to bring new industries into line. Difficulties not anticipated by the promoters, in regard to shape and size and weight, and also in the chemical and mechanical definitions of quality have, however, greatly restricted the formulating of standards satisfactory to the various manufacturing interests concerned.

As the great falling-off in trade during the past year has affected all countries which compete with Great Britain, so it may be expected that a revival anywhere will be amply shared here. The reputation of British makers for supplying substantial and high quality goods and acting equitably in their foreign transactions, gives them a position not easily conquered. New markets are continually opening out, and more assistance is furnished by the Consular Service than formerly. It is not yet generally known that the Commercial Intelligence Office of the Board of Trade in Basinghall-street, London, is able and willing to supply useful information about foreign markets and to make inquiries abroad for British manufacturers.

COMMERCIAL PROPERTY DEALINGS, 1908.

THE following is from a circular sent round by Messrs. Leopold Farmer & Sons (London), Surveyors, Auctioneers, and Specialists in Waterside and Inland Factory Property; the information it gives is of considerable practical interest:—

"The year 1908 has been somewhat eventful in regard to the disposal of industrial property, principally through the passing of the Patent and Designs (Amendment) Act, August, 1907, which became operative in August, 1908, the vital clause in the Act being sect. 27, as follows:—

"At any time not less than four years after the date of a patent, and not less than one year after the passing of this Act, any person may apply to the Comptroller for the revocation of the patent on the ground that the patented article or process is manufactured or carried on exclusively or mainly outside the United Kingdom."

This was the means which affected the foreigner, forcing him, in order to protect his valuable patent rights, to erect works in the country, with the result that large areas of land have been acquired, works erected, also unusued factories, previously failing to obtain occupants, reopened, some of the property acquired being large areas of land in *Cheshire, Buckinghamshire, Flintshire, Cornwall, Hertfordshire, Queenborough*, and several sites in *London;* also numerous works in the neighbourhood of *Leicester, Warrington, Enfield, Cheshire, Hertfordshire*, and *London*.

The prices obtained on the average are good, and run into many thousands of pounds, a guide to values being as follows:—

London.—Land: Thames side, from 600*l.* to 1,200*l.* per acre; canal side, from 450*l.* to 900*l.* per acre; with railway access, from 500*l.* to 900*l.* per acre; without railway access, from 400*l.* to 700*l.* per acre.

Provinces.—Land: Waterside, from 400*l.* to 1,000*l.* per acre; with railway access, from 300*l.* to 600*l.* per acre; without railway access, from 300*l.* to 500*l.* per acre.

London.—Factories: Newly built, rental, 7d. per foot floor area.

Provinces.—Factories: Newly built, rental, 5d. per foot floor area.

The provincial municipal authorities are keen to make local conditions favourable to the manufacturer, and we are aware of no restrictive influence against an improvement in value of provincial property, the tendency being to an increase of same, especially regarding land at shipping ports, greater desire being shown by manufacturers to locate on the seaboard.

RIVERSIDE PROPERTY AND THE PORT OF LONDON ACT.

An improvement in value of London riverside property is looked for on the establishment of the new Port of London's authority. London's area, as an industrial centre being somewhat restricted to manufacturers' operations by the London County Council's requirements and other influences, have forced the manufacturer to seek fresh fields and pastures new, with the result that migration has taken place to the country, with lower ground-rent value, more room for expansion, and the erection on up-to-date principles of premises on one floor, with modern plant and machinery equipment. These districts have considerably benefited by the erection of works, and houses for the workpeople.

GENERAL CONCLUSIONS.

In our opinion, beneficial results will be very forcibly noticed in England through the passing of the Patent and Designs Act, by an impetus to the building trade, the development of land, increased rateable value to local authorities, extra employment of labour, and a general stimulus to trade in the country.

Judging from the inquiries received, we look forward to a continued dealing of factory property, and predict, with the introduction of capital in the country, and improvement in commerce, that greater all-round activity will be the result."

LONDON BOROUGH COUNCILS.

Bethnal Green.—The Borough Council is uniting with the Stepney Borough Council in urging on the Central (Unemployed) Body the desirability of the immediate construction of roads and bridges to connect the parts of London now separated by the River Lea and Hackney and Leyton Marshes, and the carrying out of other productive works in and around the lower valleys of the Rivers Lea and Roding.

Hammersmith.—Owing to the growth of the demand for electric current, extensions are to be made to the generating plant and distributing system, at an estimated cost of 19,471*l.* The units sold have increased from 1,461,427 in 1901-2, to 4,989,741 in 1907-8, and the gross profits during the same time has risen from 8,913*l.* to 18,531*l.* A sum of 2,025*l.* is to be spent, in addition to the 19,471*l.* mentioned, in providing an additional main and machinery in connexion with the supply of current to future exhibitions in Wood-lane. Consent has been given to an application from Messrs. R. B. Grantham & Sons to construct 680 ft. of pipe sewer under the extension of Bloemfontein-road, north of Sawley-road.

Paddington.—The Borough Surveyor reports that he cannot form a correct estimate of reconstructing Ranelagh footbridge, as the price of the land has not yet been ascertained, and the exact form of the bridge had not been decided upon, but 3,000*l.*, he believes, will be the probable approximate cost.

Southwark.—A valuer is to be appointed to assist the Assessment Committee in valuing the lines, etc., belonging to the South Eastern and Chatham Railway Company.

Woolwich.—Messrs. Seagers, Ltd., are to supply the cast-iron pipework required for the construction of the cooling pond at the Plumstead Electricity Works at 169*l.* 10s. 6d. Certain works of levelling at Plumstead and Woolwich cemeteries are to be carried out, and these works are to be extended at a cost of 570*l.* if the Central (Unemployed) Body make a grant of 435*l.* The widening and improvement works carried out by the London County Council in connexion with the tramway from the Plume of Feathers public-house to the county boundary, Abbey Wood, has been completed at a cost of 749*l.*, as against the estimate of 822*l.* The repaving of the forecourts and reflagging the footpath on the north side of High-street has been completed at a cost of 107*l.*, as against the estimate of 140*l.* The Works Committee are to consider some proposals for painting at the next meeting. Part of Sherard-road, Eltham, is to be paved, kerbed, and channelled at an estimated cost of 2,553*l.* All the present gas-lamps in Brookhill-road, from Sandy Hill-road to Nightingale-place are to be fitted with new inverted burners of 150 candle-power at an increased cost of maintenance of 15s. each per annum.

Obituary.

MR. R. PRATT.

The death took place on December 26 of Mr. R. Pratt, at his residence, Oak Ville, Vicarage-road, Henley-on-Thames. Mr. Pratt for twenty-two years held the position of Surveyor to the Henley Corporation. He was appointed in the year 1886. He served his apprenticeship with Messrs. Cuthwaite & Sons, builders, and subsequently entered the service of Messrs. Wheeler & Sons, builders and contractors, of Reading. He was chiefly engaged in church restoration work.

General Building News.

NEW CHURCH, WIMBLEDON.

A new church is being built in Herbert-road, St. Andrew's Parish, South Wimbledon. The church is being erected from plans prepared by Mr. William Thorold Lowdell, architect, and when completed will seat over 650 persons. The building consists of nave, chancel, side chapel, north and south aisles, baptistry, clergy, and choir vestries, and organ-loft, but only the nave, baptistry, choir vestry, and porches are being built at present, the cost being 4,300*l.*, but when complete will be about 7,500*l.* The materials chiefly used externally and internally are red brick, with Bath stone dressings. The arches are of brick and the piers of red Closeburn stone, with caps and bases in blue Pennant. The contractors are Messrs. Joseph Dorey & Co., of Brentford.

PRIMITIVE METHODIST CHAPEL, KIRTON SKELDYKE.

A Primitive Methodist chapel has been built at Kirton Skeldyke. The new building consists of a chapel, a schoolroom, two classrooms, a vestry, and boiler-house and heating-chamber, and other outbuildings. Mr. W. Greenfield, of Boston, is the architect, and the work has been carried out by Messrs. Langley & Son, of Kirton.

SCHOOL BUILDINGS, DURHAM COUNTY.

A new block of buildings, situate in Hartington-street, Consett, is intended to supersede the old British schools and the Wesleyan schools. The new schools accommodate 1,120 children (mixed and infants), they cover an area of 9,290 sq. yds., and have involved a total outlay of 14,223*l.* 4s. 1d., or a percentage of 12*l.* 18s. 7d. per head. The boys' and girls' schools each comprise six classrooms, opening directly off a central hall, and are all under the direct observation and supervision of the head teacher. There is also a science-room, replete with demonstration-table and fume-closets. The junior mixed school comprises five classrooms for sixty, and two for fifty scholars. The site is ample in size, and has enabled large square open playgrounds to be provided for each sex. The heating apparatus is on the low-pressure hot-water system. The buildings have been designed and carried out by Mr. W. H. Knowles, F.R.I.B.A., architect, of Newcastle, whose design was placed first in open competition for the work. Messrs. T. Hunter & Son, of Washington, were the contractors, and the clerk of works Mr. George Dixon.

NEW GRAMMAR SCHOOL, HORNCASTLE.

The foundation-stone of the new grammar school at Horncastle was laid on Monday afternoon, the 7th inst., by the Hon. Rd. Stanhope, of Revesby Abbey. The school is designed to accommodate eighty-four boys and girls in four classrooms; in addition there will be a laboratory with a preparation-room and chemical store attached. The school will be on the corridor system, three of the classrooms being divided by screens, so that a large assembly-hall can be quickly improvised. Messrs. Scorer & Gamble, of Lincoln, are the architects, and Messrs. Charles Hensman & Son, of Horncastle, the contractors, Mr. Weeber, of Sleaford, acting as clerk of works.

RECONSTRUCTION OF THE RAILWAY-STATION, ARBROATH.

The Arbroath Town Council have agreed unanimously to approve, subject to certain suggestions, the plans which have been prepared by the Caledonian and North British Railway Companies for the reconstruction of the railway-station in this town. The work of reconstruction is estimated to cost upwards of 50,000*l.* It is intended to make a start with the operations early in spring, and it is calculated that the work will extend over a period of two years.

HOSPITAL, BARRY.

The opening has just taken place of the new accident and surgical hospital at Barry. The buildings have been erected on land in the possession of the District Council (by whom the institution will be maintained), facing Wyndham-street. The main building has a frontage of 140 ft., and the total frontage of the site is 200 ft. The buildings have been constructed of brick with Ruabon red pressed facings and Portland stone dressings. Accommodation is provided for twenty-one beds. The buildings were erected by Mr. D. W. Davies, contractor, Barry, at a cost of 6,655*l.*, from plans prepared in the office of the Surveyor to the Council, Mr. J. C. Pardoe, A.M.Inst.C.E. Mr. John Hamer was clerk of works.

CO-OPERATIVE BAKERY, YARMOUTH.

The Great Yarmouth Co-operative Society have opened a new bakery at 6, Suffolk-place, Union-road. The building is faced with red brick, and lined throughout on the ground floor with white-glazed bricks. There are three floors and a coaling-room. Three draw-plate ovens and a peel oven have been erected by Messrs. Carnelley & Heaton. That firm also provided the machinery, consisting of sifter, kneader, etc., driven by electric power, the motor being supplied by Messrs. Crompton. The contractor was Mr. J. D. Harman, and the architect Mr. J. W. Hewitt.

CORPORATION PAVILION, WEYMOUTH.

The new Weymouth Pavilion, designed by Messrs. Mangnall & Littlewoods, architects, and built by Messrs. Wakeham, of Plymouth and Portland, for the Corporation, has just been opened. The main part of the building has been built as a theatre, and in addition there are dining-rooms, tea terraces, etc. The cost has been about 13,000*l.*

WORKSHOPS FOR THE BLIND, LIVERPOOL.

The foundation-stone was recently laid of the new buildings in Cornwallis-street for the Liverpool Workshops for the Outdoor Blind. The extension premises, which will involve an expenditure of about 15,000*l.*, have been designed by Messrs. Holt & Glover, of Liverpool. The main walls will be of grey brick, with stone and pressed brick dressings. The floors and stanchions will be of reinforced concrete. The accommodation comprises a well-lighted basement, ground floor, first floor, second floor, and a flat roof for storage and recreation space for the men. These floors will accommodate about 200 men, with storage space for materials.

PROPOSED Y.M.C.A. PREMISES, NORTH SHIELDS.

The Committee of the Tynemouth Y.M.C.A. have secured a site in Bedford-street, North Shields, for the new premises they propose to erect. The cost, including site, will be about 4,500*l.* The premises are to consist of gymnasium, etc., in the basement, with, on the first floor, reading-rooms, committee-rooms, and games-rooms, for seniors and juniors respectively; whilst on the second floor a billiard-room and a games-room for seniors will be provided. Mr. Arthur B. Plummer is the architect.

GARDEN VILLAGE, CARDIFF.

Constructive work has been begun by Messrs. Blacker Brothers of the houses of Coryndon Garden Village, in a suburb of Cardiff, near St. Fagan's Castle, with a station at Peterston, on the Great Western Railway, for Cardiff Suburbs Tenants, Ltd. The main avenue is 100 ft. wide, a bridge is being built across the Ely river, and the sewage and water supply systems are calculated for a population of 1,000 persons.

WANDSWORTH INFIRMARY WORKHOUSE.

The foundation-stone has been laid of the new infirmary workhouse for the poor law district of Battersea and Wandsworth. The work is being carried out to plans by Mr. J. S. Gibson, and the tender accepted for building was that of Messrs. W. Johnson & Co., Ltd., of Wandsworth Common, for the sum of 66,550*l.*

WORKMEN'S HALL AND INSTITUTE, ABERAMAN.

A workmen's hall and institute have been built on a site in Cardiff-road, Aberaman. The premises include a theatre with seating accommodation for 1,450. The cost of the whole of the building, including the furniture and fixtures of the reading-rooms, library, and billiard-rooms, will be nearly 10,000*l.* The builders were Messrs. J. Morgan & Sons, Aberdare, the architects being Messrs. T. Roderick & Son, and the clerk of works Mr. E. R. Evans.

PROPOSED CONCERT-HALL, NEWCASTLE-UPON-TYNE.

Plans, it is stated, are about to be submitted to the municipal authorities for a new concert-hall building, which it is proposed to erect on a site with frontages to Princess and Lisle streets and Northumberland-place. The principal dimensions of the hall are, length 138 ft., width 79 ft. 6 in., and height 44 ft., and the seating area in the ground floor is 93 ft. by 68 ft. 6 in. The seating accommodation will be as follows:—Ground floor, 1,680; balcony floor, 712; gallery, 636; whilst the 422 people can be accommodated on the stage, making a total of 3,500 seats. For promenade concerts or special meetings, with the area chairs removed, the accommodation would reach 5,000. The architects are Messrs. Graham & Hill.

PROPOSED ASSEMBLY HALL, ETC., COLWYN BAY.

It is reported that plans and elevations for a new public building for Colwyn Bay have just been submitted to the Urban District Council. The building is projected by Manchester firms, and Messrs. Charles Clegg & Sons, of that city, are the architects. The premises are to cover an area of 216 ft. by 167 ft., and to include a skating-rink, a billiard-hall, swimming-baths, and a range of shops.

Stained Glass & Decoration.

CHURCH OF ST. ALBAN, HINDHEAD.

Mr. Christopher Whall is the artist of the stained-glass window which will shortly be set up in the Memorial Chapel of the Good Shepherd.

GATES FOR THE PALACE, MYSORE.

Messrs. Tonks, of Birmingham, have made a pair of large chased and lacquered brass gates for the entrance gateway of the new palace of the Maharajah of Mysore. The gates, weighing about 3 tons, are nearly 175 ft. in width. The design, repeated on each gate, embraces panels of *repoussé* work, representing elephants in the jungle, above which are the Maharajah's coat-arms upon a shield, with supporters and crest of an Indian buffalo with a double eagle, and a motto in Sanskrit.

CAPETOWN CATHEDRAL.

The beautification of St. George's Cathedral, Capetown, is proceeding apace. The latest addition in this direction consists of four stained-glass windows, intended for the apse. They have been designed and painted by Messrs. Karl Parsons and C. W. Whall, and executed by Messrs. Lowndes & Drury, of Parson's-green, Fulham. Each window has two subjects in it; the lower panels in each case being representations of New Testament subjects, and the upper of illustrations drawn from the Old Testament. These subjects are the Crucifixion, and Moses and the bronze serpent; the Last Supper, and the Gathering of the Manna; the Temptation in the Wilderness, and the Temptation of Eve; the Baptism, and the Crossing of the Red Sea. The windows are to be situated at some considerable height from the ground, and more attention has therefore been devoted to a bold treatment than to detail, while in view of the brilliancy of the South African sun it has been necessary to paint in rather darker colours than usual in order to secure the required effect. In the dull light of an English January day, this somewhat detracted from the pleasure one had in examining a really artistic piece of work, but it was not difficult to imagine how much it would have been enhanced if a flood of sunlight had been pouring through the windows. Though the general effect is bold, detail has not been neglected, and the general grouping of the figures is excellent, due prominence being given in every case to that which it is intended should be the centre of attraction.—*Morning Post.*

Appointments.

BRECON.

Mr. Lewis Harpur has been appointed Road Surveyor for the County of Brecon. Mr. Harpur is the son of Mr. W. Harpur, the City Engineer, of Cardiff.

PONTYPRIDD.

Mr. W. E. Lowe has been appointed Engineer and Surveyor to the Pontypridd Urban District Council and Architect to the education authority.

Sanitary and Engineering News.

BRAMPTON DISTRICT WATERWORKS.

The Local Government Board have sanctioned an application of the Brampton Rural District Council, Cumberland, for an extensive waterworks scheme for supplying the parishes of Brampton, Hayton, Castle Carrock, and Irthington with water. There will be between twenty-seven and twenty-eight miles of water mains and three reservoirs, which it is intended to construct in ferro-concrete. The estimated cost of the works is about 16,000*l.* The engineer of the scheme, Mr. Harry W. Taylor, A.M.Inst.C.E. (of the firm of Taylor, Wallin, & Taylor, of Newcastle-on-Tyne and Birmingham), has been instructed to obtain tenders for the construction of the works as soon as possible.

PROPOSED DRY DOCK, LEITH.

In connexion with the inquiries of the Admiralty regarding the construction of the new dry dock at Leith, Mr. Peter Whyte, C.E., Superintendent of the Docks, has submitted to the Works Committee of the Leith Dock Commission a plan showing a dry dock large enough to accommodate the Admiralty's big vessels. The breadth was 90 ft., and to get a sufficient depth of water extensive dredging operations would be necessary. The entrance would require to be from the outer harbour,

and it was stated that the scheme would necessitate the widening of the piers, the total extra cost being estimated, roughly, at 400,000*l.* The Commission has sent on the plan to the Admiralty, but, says the *Scotsman*, it is not believed that the scheme will proceed further, the cost being altogether prohibitive.

Miscellaneous.

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS.

The office of Mr. John A. Gill Knight, District Surveyor for West Hackney, has been removed to No. 407, Kingsland-road, N.E.—Messrs. E. P. Allam & Co., electrical engineers, have removed from 11, Red Lion-street to 28, Gray's Inn-road, Holborn, W.C.

AN ARTISTIC ALMANAC.

Messrs. Arthur L. Gibson & Co., of Tower-street, makers of patent steel gates, rolling shutters, etc., send us an almanac decorated with an excellent colour-print of a landscape by E. Lamasure, "A Country Road," a very charming composition. We are always ready to note and acknowledge any effort to give to trade almanacs an artistic element, in contradistinction to the numerous issues of the kind which have nothing but commonplace decoration to recommend them.

YEAR'S WORK UNDER THE LONDON BUILDING ACT.

The annual Report of the Building Act Committee of the London County Council, issued this week, shows that during the twelve months the total number of applications received was 2,165 (as against 2,235 in the previous year), and of these 1,893 were granted and 272 refused. The largest number of applications (736, of which 684 were granted) were for the erection of special and other buildings, to which the general rules of the Act as to construction are inapplicable; 520 applications were made for consent to the erection of buildings beyond the general line, and of these 422 were granted; 298 applications, of which 277 were granted, were received for consent to the construction of porticos, balconies, verandahs, etc., and 223 applications (of which 185 were granted) were for consent to the erection of buildings at less than the prescribed distance from the centre of the roadway. The number of applications for relaxation of rules relating to open spaces about buildings was 101, of which 92 were granted; 54 applications were granted and 19 refused for alterations to buildings under sect. 207; 29 applications were made, and 26 granted for consent to the construction of buildings exceeding in extent 250,000 cubic ft. During the twelve months 4,059 cases of dangerous structures were reported, by far the largest number (1,750) being in regard to walls of houses other than party walls and party structures.. For some years past the Committee have been rearranging the District Surveyors' districts as opportunities have occurred, with the object either of making the boundaries as far as possible coterminous with those of the metropolitan boroughs, or of making districts sufficiently remunerative to attract men of ability. In order to facilitate the work temporary arrangements only have been made for the supervision of districts as they become vacant. In this connexion the authority have been enabled to adjust satisfactorily a number of districts during the last few years. At the time of the compiling of the report, seven districts were vacant, pending opportunities for adjustment. Of the District Surveyors, 13 can take private practice, one was a fire surveyor, 7 are precluded from private practice in their own districts, and the remaining 28 are entirely precluded from private practice. The total fees received during the last twelve months for which figures are available was 51,776*l.* in respect of 44,020 works. The expenses of the district offices amounted to 13,630*l.* The total number of matters dealt with during the year under the London Building Act, 1894, was 9,820, made up as follows:—Applications, 2,254; miscellaneous, 2,525; dangerous and neglected structures, skysigns, etc., 5,041. The figures for the previous twelve months were as follows:—Applications, 2,318; miscellaneous, 2,394; dangerous and neglected structures, skysigns, etc., 4,438; total, 9,150. During the year 10,541 notifications were received from District Surveyors of buildings within the scope of sects. 10 and 12 (projecting shops and access to roofs) of the London Building Act Amendment Act, 1905.

LEEDS SCHOOL OF ART.

In connexion with the Leeds School of Art a number of architectural lectures by practising architects in Leeds and the West Riding will be given during the next session. They will be supplementary to the course of instruction given in the architectural department of the school. The first lecture, on Wednesday, February 3, will be given by Mr. W. H. Thorp (Chairman of the Leeds School of Art Sub-Committee), and other lecturers are Mr. Percy Robinson (President of the Leeds and Yorkshire Architectural Society), Mr. Graham Nicholas (Halifax), Mr. Butler Wilson (Leeds), and Mr. Herbert Hodgson (Bradford).

THE SANITARY RECORD DIARY.

The Sanitary Record Year-book and Diary for 1909 has been issued by the Sanitary Publishing Company, Ltd. (Fetter-lane, E.C.). This is the twenty-seventh issue of the Year-book, which is very well arranged and printed, and the price of which is 2s. 6d. net. The diary portion is interleaved with blotting-paper, and the work, in addition to the information usually found in such publications, contains a useful *résumé* of the various Parliamentary measures passed during the year, and also memoranda for sanitary engineers and surveyors (compiled by Mr. G. J. G. Jensen, C.E.), and information as to Government Departments and sanitary and allied societies.

SIAMESE TEAK TRADE.

According to an official Consular report the exports of teak from Bangkok in the year 1907-8 amounted to 87,710 tons, as compared with 98,073 tons in 1906-7. The shipments to the United Kingdom in 1907-8 amounted to 5,526 tons, as against 4,778 tons in 1906-7. In the total shipments to Europe there was a drop of some 9,000 tons. This is attributed to the fact that amongst the arrivals of teak at Bangkok from the forests the number of logs of a quality fit for shipment to Europe is steadily decreasing. Prices in Europe, however, were well maintained.

KAISER WILHELM CANAL.

Sir W. Ward, H.M. Consul at Hamburg, states that the preparatory work of enlarging the Kaiser Wilhelm Canal has been already begun. The entire work will probably occupy about seven or eight years, and its cost is estimated at about 11,000,000*l.* It is intended to deepen the fairway to eleven metres if necessary. The breadth of the canal is to be nearly doubled, and new locks are to be built at both ends of the canal, of a length of 330 metres, a breadth of 45 metres, and a depth of 14 metres. This will allow the canal to be used in future by the largest vessels that are ever likely to be built.

SWISS CEMENT.

According to the report of Mr. Milligan, H.M. Consul for Switzerland, there are twenty-three cement factories in the country with an output of 258,300 tons of Portland, Roman, and Pozzuolana cement. These figures do not include the output of gypsum and hydraulic lime, the total of which was 267,900 tons.

FORESTRY MATTERS IN QUEENSLAND.

There has been considerable progress made in the supervision and utilisation of the forest lands in Queensland, according to the annual Report recently issued by Mr. MacMahon, the Director of Forests. Under the Forestry Acts, anyone desirous of obtaining timber on a reserve can have a block of trees marked for him, which will be then submitted for sale by tender or auction, at an upset price fixed by the Land Commissioner, and this is paid as a royalty at per 100 super. ft. on the Crown ranger's measurement. The timber industry has developed, and the revenue from it has steadily increased. The total area of reserved timber land is 3,672,578 acres. There are seven State forests reserves, a total of 416,872 acres, proclaimed under the State Forests and National Parks Act of 1906; 91,752,076 ft. of timber are cut and manufactured during the year in Queensland, an increase over the previous one of 8,950,230 ft. The railway received for the carriage of timber 136,901*l.*, and used 91,033*l.* worth of sleepers. The Government has under consideration the setting apart in perpetuity certain lands as forest lands; for, while good land, contiguous to railways adapted for closer settlement, could not very well be locked up as State forests, yet there are areas that would not pay to cultivate for agricultural purposes, and would never yield more payable returns than the timber they now bear, and these might be conserved for perpetually renewing the supplies.

THE LABOUR MARKET IN THE COLONIES.

The January *Circular* of the Emigrants' Information Office (31, Broadway, Westminster, S.W.), states that until next spring neither mechanics, miners, railway labourers, or general labourers should emigrate to *Canada* on the chance of work. Wages for mechanics and others are, generally speaking, lower than they were a year ago, and in some places there is now an excess of unskilled labour. In *New South Wales* there is sometimes an opening for mechanics if they are not too specialised, and can afford to keep themselves till they find work. In *Victoria* there is a good demand in many places for bricklayers, carpenters, and plasterers. In *South Australia* there is some demand for first-rate carpenters, bricklayers, masons, wheelwrights, and blacksmiths. In *Queensland* there is a demand for a few experienced coal miners and carpenters. In *Western Australia* the demand for mechanics is not great, and the supply of men in the building and other trades is generally sufficient, but some country joiners may find work. In *New Zealand* there is not much demand for more mechanics, as the local supply seems to be generally sufficient, but competent men can get work at this season of the year. Emigrants should not go to any part of *South Africa* at the present time in search of work. For a long time past the supply of labour in the building, engineering, and other trades in Cape Colony has exceeded the demand.

QUEEN ANNE'S-GATE, WESTMINSTER.

For the building of the new offices for the Anglo-American Oil Company, Ltd., have been pulled down two of the fine old houses, Nos. 38-40, in Queen Anne's-gate. The plans and designs of Messrs. Ernest Runtz & Ford provide for a structure rising 62 ft. from the ground-level to the parapet, with two stories above. The façade will be of Pentelikon marble, and the total cost is computed to be some 55,000*l.*

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£ s. d.	
Best Stocks	1 6 0	per 1000 alongside, in river.
Picked Stocks for Facings	2 10 0	,, delivered
Flettons	1 4 0	,, at railway depôt.
Best Fareham Red	3 12 0	,, ,, ,,
Best Red Pressed Ruabon Facing	5 0 0	,, ,, ,,
Best Blue Pressed Staffordshire	3 15 0	,, ,, ,,
Do. Bullnose	4 0 0	,, ,, ,,
Best Stourbridge Fire Bricks	3 14 0	,, ,, ,,
GLAZED BRICKS		
Best White and Ivory Glazed Stretchers	10 7 6	,, ,, ,,
Headers	9 17 6	,, ,, ,,
Quoins, Bullnose, and Flats	13 17 6	,, ,, ,,
Double Stretchers	15 17 6	,, ,, ,,
Double Headers	12 17 6	,, ,, ,,
One Side and two Ends	16 17 6	,, ,, ,,
Two Sides and one End	17 17 6	,, ,, ,,
Splays, Chamferred, Squints	15 10 0	,, ,, ,,
Best Dipped Salt Glazed Stretchers	10 7 6	,, ,, ,,
Headers	9 17 6	,, ,, ,,
Quoins, Bullnose, and Flats	13 17 6	,, ,, ,,
Double Stretchers	15 17 6	,, ,, ,,
Double Headers	12 17 6	,, ,, ,,
One Side and two Ends	16 17 6	,, ,, ,,
Two Sides and one End	17 17 6	,, ,, ,,
Splays, Chamferred Squints	15 10 0	,, ,, ,,
Second Quality White and Dipped Salt Glazed	1 5 0	,, less than best.

	s. d.	
Thames and Pit Sand	6 6	per yard, delivered.
Thames Ballast	5 0	,, ,,
Best Portland Cement	28 0	per ton, ,,
Best Ground Blue Lias Lime	19 0	,, ,,

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 11s. 6d. per yard, delivered.
Stourbridge Fireclay in sacks 27s. 0d. per ton at rly. dpt.

STONE.

	s. d.	
BATH STONE—delivered on road waggons, Paddington Depôt	1 6½	per ft. cube.
Do. do. delivered on road waggons, Nine Elms Depôt	1 8½	,, ,,
PORTLAND STONE (20 ft average)—		
Brown Whitbed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 1	,, ,,
White Basebed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 2½	,, ,,

	s. d.	
Ancester in blocks	1 10	per ft. cube. deld. rly. depôt.
Beer ,,	1 6	,, ,,
Greenshill ,,	1 10	,, ,,
Darley Dale in blocks	2 4	,, ,,
Red Corsehill ,,	2 2	,, ,,
Closeburn Ree Freestone	2 0	,, ,,
Red Mansfield ,,	2 4	,, ,,

PRICES CURRENT.—*Continued on page 49.*

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this Number: Competitions, —; Contracts, iv. vi. viii. x.; Public Appointments, xvii.; Auction Sales, xxvi.

Certain conditions, beyond those given in the following information, are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bonâ-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

*** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur.

Contracts.

BUILDING.

JANUARY 11. — **Ebbw Vale.** — RESLATING. — Ebbw Vale Education Committee invite tenders (by a schedule of prices) for stripping, boarding, felting, and reslating the roofs of the Victoria Schools, together with various jobbing works. Further information may be obtained on application to the architect, Mr. Henry Waters, Market-chambers, Ebbw Vale. A deposit of 1*l.* 1s. will be required.

JANUARY 13.—**Killay.**—SCHOOL.—The Glamorgan C.C. invite tenders for the erection of a new school at Killay. Plans, etc., may be seen, and copies of the bills of quantities obtained, at the office of Messrs. Hartland, Isaac, Watkins, & Lewis, 7, Rutland-street, Swansea, and also at offices of Mr. T. Mansel Franklen, Clerk of the C.C., Glamorgan C.C. Offices, Westgate-street, Cardiff.

JANUARY 13. — **Nelson, etc.** — SCHOOLS, ETC. — The Glamorgan C.C. invite tenders for the following works, viz.:—(1) The diverting, widening, and improving of the Bridgend and Port Talbot main road between Caegarw Farm and the Vicarage, Pyle; (2) foundation, boundary wall, etc., for new school at Tonmawr, near Neath; (3) new offices at Neath Intermediate School; (4) building a new school at Nelson. Plans, etc., may be seen, and copies of the bills of quantities obtained, by those desirous of tendering for work No. 1 at the County Surveyor's office, Town Hall, Bridgend; for works Nos. 2 and 3 at the Neath County Police-station; and for work No. 4 at Pontypridd Police-station. Plans, etc., of all the works can be seen, and copies of the bill of quantities obtained, at offices of Mr. T. Mansel Franklen, Clerk of the C.C., Glamorgan C.C. Offices, Westgate-street, Cardiff.

* JANUARY 14.—**Darlaston.**—HANDICRAFT CENTRE.—The Staffordshire Education Committee invite tenders for erection of a handicraft centre at Darlaston. See advertisement in this issue for further particulars.

* JANUARY 14. — **Stratford Green.** — SHEDS.—The Territorial Force Association invite tenders for the new iron gun and drill sheds and converting drill hall into riding school, etc., at Artillery House, Stratford Green. See advertisement in this issue for further particulars.

JANUARY 14.—**Talybont.**—HOUSE.—The erection of a house at Talybont, Cardiganshire, for Mr. D. Williams. Plans, etc., may be obtained on application to the architect, Mr. G. T. Bassett, A.R.I.B.A., architect and surveyor, Aberystwyth.

JANUARY 15.—**Chartham Downs.**—REPAIRS, ETC.—For plastering, repairs, painting, etc., to Ward A2 Male at the Kent County Lunatic Asylum, Chartham Downs, near Canterbury. A copy of the bills of quantities may be obtained, and plans, etc., seen, at the office of Mr. W. J. Jennings, architect, 4, St. Margaret's-street, Canterbury, on payment of the sum of 5*l.*

JANUARY 16.—**Blaenplywf.**—HOUSE.—The erection of a house at New Inn, Blaenplwyf, for Mr. Thomas Jenkins. Plans, etc., may be obtained on application to the architect, Mr. G. T. Bassett, A.R.I.B.A., architect and surveyor, Aberystwyth.

JANUARY 16. — **Blaina.** — SCHOOL.—Monmouthshire Education Committee invite tenders for the erection of a new mixed and infants' school at Blaina to accommodate 510 scholars. Plans, etc., may be seen at the County Council Offices, Newport. Quantities supplied on deposit of 3*l.* 3s.

JANUARY 16.—**Chepstow.**—SCHOOL WORKS.—Monmouthshire Education Committee invite tenders for repairs to playgrounds, road, and other works at the Chepstow Boys' Council School and Chepstow Girls' and Infants' Council School. Plans, etc., may be seen at the offices of Mr. C. Dauncey, Secretary, C.C. Offices, Newport, Mon.

JANUARY 18.—**East Ham.**—RESIDENCE FOR MEDICAL OFFICER.—The T.C. of East Ham invite tenders for the erection of a residence for the Medical Officer upon the Isolation Hospital site at Boundary-road, East Ham, in accordance with drawings, etc., which may be obtained on application to Mr. Adam Horsburgh Campbell, M.Inst.C.E., Borough Engineer, Town Hall, East Ham, E. The persons tendering are required to deposit a cheque or Bank of England note for the sum of 5*l.*

JANUARY 18.—**East Preston.**—REPAIRS.—Tenders are invited for repair of chimneys and other works at the Workhouse, East Preston, near Worthing. Specification of the work can be seen at the Workhouse.

* JANUARY 19.—**London.**—BRANCH POST-OFFICE, ETC.—The Commissioners of H.M. Works, etc., invite tenders for a branch post-office and meteorological office, South Kensington (second contract—superstructure). See advertisement in this issue for further particulars.

JANUARY 19.—**Seaham Harbour, etc.**—SCHOOLS.—The C.C. of Durham invite tenders for the erection of temporary Council school at Seaham Harbour. Alterations and improvements at Middlestone Moor, South Frosterley, Easington-lane, and Hedley Hill Council schools. Plans, etc., may be seen, and bills of quantities obtained (for Middlestone Moor and Seaham Harbour Council schools only), at the office of Mr. F. E. Coates, A.R.I.B.A., Shire Hall, Durham.

JANUARY 19. — **Ynyswen.** — HOUSES.—The erection and completion of twenty-two houses at Kenry-street, Ynyswen, Treorchy, Rhondda Valley, for the Ynyswen Building Club. Plans, etc., may be seen, and forms of tender obtained, at office of Mr. W. D. Morgan, M.S.A., architect, 194, Ystrad-road, Pentre.

JANUARY 20. — **Taunton.** — SCHOOL WORKS. — The Council of Taunton School, Taunton, invite tenders for the erection of a covered playground, changing room, bathroom, box-room, etc. The plans, etc., may be seen, and bills of quantities obtained, at the office of Mr. F. W. Roberts, F.R.I.B.A., architect, 2, Hammet-street, Taunton.

JANUARY 21. — **Tullamore.**—POST-OFFICE.—Tenders are invited for the erection and completion of a new Crown Post-office at Tullamore. The plans, etc., can be seen at office of Mr. H. Williams, Secretary, Office of Public Works, Dublin, and at the Post-office, Tullamore. Forms of tender and bills of quantities will be supplied on deposit of 1*l.*

* JANUARY 22. — **Ilfracombe.** — POST-OFFICE. — The Commissioners of H.M. Works, etc., invite tenders for a new post-office at Ilfracombe. See advertisement in this issue for further particulars.

JANUARY 23. — **Cwmbach and Godreaman.**—HOUSES.—The U.D.C. of Aberdare invite tenders for the erection of twenty-eight workmen's dwellings at Cwmbach, also twenty-two at Godreaman. Plans, etc., may be inspected at the Surveyor's office, Town Hall, Aberdare.

* JANUARY 23.—**Manchester.**—SCHOOL.—The Manchester Education Committee invite tenders for new Municipal Secondary School for Girls in Chorlton-street. See advertisement in this issue for further particulars.

* JANUARY 27.—**Dublin.**—NEW WARD BLOCK, ETC.—The War Department invite tenders for a new ward block and boiler-house, etc., at the Military Hospital, Arbour Hill, Dublin. See advertisement in this issue for further particulars.

JANUARY 27.—**Elland.**—MILL, ETC.—Tenders for the erection of a four-storied fireproof mill, engine-house, etc., at Springwood Mills, Holywell Brook, Elland, for Messrs. R. & J. Holroyd. Plans, etc. (from January 20 to January 27), may be obtained at offices of Messrs. Chas. F. L. Horsfall & Son, architects, Lord-street-chambers, Halifax.

JANUARY 27. — **Milton, Portsmouth.** — MEDICAL OFFICERS' QUARTERS.—The Guardians of the Poor of the Parish of Portsmouth invite tenders for the erection of quarters for assistant medical officers, medical officer's residence, and an extension of the nurses' home at the Workhouse Infirmary at Milton, Portsmouth. The drawings, etc., may be inspected at the offices of the architects, Messrs. Rake & Cogswell, Prudential-buildings, Commercial-road, Portsmouth, and copies of the bills of quantities obtained on payment of a sum of 2*l.* 2s.

* JANUARY 29.—**Waterloo (Hants).**—SCHOOL.—The Southampton C.C. invite tenders for a new Council School for 100 children at Waterloo. See advertisement in this issue for further particulars.

JANUARY 30. — **Bristol.** — SCHOOL.—Gloucestershire Education Committee invite tenders for the erection of a new Elementary School at Soundwell-road, Staple Hill, Bristol. Bills of quantities can be obtained from Mr. R. S. Phillips, architect, Midland Bank-chambers, The Cross, Gloucester, upon depositing 2*l.* 2s.

NO DATE.—**East Ham.**—REPAIRS TO SCHOOLS.—The Borough of East Ham Education Committee invite the names and addresses of ratepayers of the borough who are desirous of submitting tenders for building and decorative repairs required to be done to the schools. Specifications will be supplied to the persons or firms approved by the Committee. Mr. H. C. Padgett, Secretary, Education Office, East Ham, E.

NO DATE. — **Hamilton, Scotland.** — SCHOOL. — Hamilton Parish School Board invite tenders for the mason, joiner, slater, plaster, and plumber works of school at Dykehead, Hamilton. Schedules may be had on application to Mr. Gavin Paterson, architect, Hamilton, on payment of 10s.

NO DATE. — **Llandinam.**—VICARAGE.—Rev. James Jones, Vicar of Llandinam, invites tenders for building a new vicarage at Llandinam. The plans, etc., may be obtained on application to the architects, Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, R.S.O.

NO DATE.—**Tipper.**—RESIDENCE.—The erection of a new residence at Tipper, Naas, Co. Kildare. Plans, etc., may be seen at the offices of the architect, Mr. George L. O'Connor, M.R.I.A.I., 42B, Great Brunswick-street, Dublin.

NO DATE. — **Usworth.** — ENGINE-HOUSE, ETC.—Tenders wanted for building air compressor, engine-house, and engine-pillars. For particulars apply to Engineer, Usworth Colliery.

ENGINEERING, IRON, AND STEEL.

JANUARY 18. — **Beckenham.** — ELECTRIC WIRING. — Beckenham U.D.C. invite tenders for the electric wiring of houses in their district. Specifications, etc., can be obtained on payment to the Council's Collector of the sum of 2*l.* 2s. For any further information application should be made to the Resident Engineer, Mr. J. E. Tapper, Electricity Works, Church Fields-road, Beckenham.

JANUARY 26. — **Belfast.** — FISH-PLATES.—Midland Railway (Northern Counties Committee, Ireland) invite tenders for fish-plates, etc., for the supply and delivery in the permanent way yard, Duncrue-street, Belfast. Copies of the drawings (A and B) and forms of tender can be obtained from Mr. James Cowie, Secretary of Committee, York-road Terminus, Belfast.

MISCELLANEOUS.

JANUARY 13. — **Barking.** — REPAIRS TO STREET LANTERNS.—The U.D.C. of Barking Town invites tenders for the repairs to, and glazing of, the street lanterns within their district. Form of tender, etc., may be obtained on application to the Engineer at the Electricity Works, East-street, Barking.

JANUARY 13. — **Nottingham.** — PULLING DOWN PROPERTY, PINDER-STREET, WHARF-STREET, AND LEATHER-STREET.—The Health Committee invite tenders for pulling down fourteen cottages and removing the whole of the material and rubbish from the site. Plans may be seen, and specifications, etc., obtained, from Mr. Frank B. Lewis, City Architect, Guildhall, on payment of a deposit of 10s.

JANUARY 14.—**Birmingham.**—TELEPHONE INSTALLATION.—The Guardians of the Poor of the Parish of Birmingham invite tenders for a telephone installation at the Workhouse, Western-road, Birmingham, where a plan can be seen and a copy of the specification obtained on application.

JANUARY 16. — **Newcastle-upon-Tyne.** — WOOD PAVING BLOCKS.—Tenders are invited for the supply and delivery at the Newcastle Quay of 500,000 wood blocks. Prices for any suitable timber in blocks, either solid or prismatic, will be considered on payment of 1*l.* 1s. to the City Treasurer, Town Hall, Newcastle. Forms of tender and all other particulars can be obtained at the City Engineer's Office, Town Hall, Newcastle.

JANUARY 16.—**Perth.**—BOWLING GREEN.—The T.C. of Perth invite offers for the relaying of the turf of, and draining and improving, the bowling green behind the Public Swimming Baths, Dunkeld-road, Perth. The plans of the works may be seen, and specifications, etc., obtained, at the office of Mr. J. W. Bayne, Superintendent of Parks and Cemeteries, Wellshill, Perth.

JANUARY 25. — **Gainsborough.** — SANITARY DUST WAGONS AND CARTS.—The U.D.C. of Gainsborough invite tenders for the supply of five wagons or carts, each about 2½ cube yds. capacity, for the collection of house refuse. Mr. Decimus M. Robbs, Clerk, Council Offices, Gainsborough.

* JANUARY 26. — **Finsbury Park.** — PALE OAK FENCING.—The London C.C. invite tenders for supply and erection of open pale oak fencing. See advertisement in this issue for further particulars.

JANUARY 26. — **Ynyscynhaiarn.** — TENDERS FOR MAINS, PIPES, AND INCANDESCENT LAMP EQUIPMENTS.—The Ynyscynhaiarn U.D.C. invite tenders:—(1) For about 150 tons 3-in. to 8-in. cast or steel gas main and fittings; (2) for about ninety lanterns and incandescent burners. Specifications and forms of tender can be obtained from Mr. Jno. Jones, Clerk to the Council, Town Hall, Portmadoc, on payment of 1*l.* 1s. for each copy.

APRIL 1.—**Cape Town.**—LOCKS.—Tenders will be received by the Chairman of the Tender Board, Control and Audit Office, Cape Town, for the supply of 3-in., four lever, cut cupboard locks, left and right hand, with two keys each—no key to open any two locks—for the period July 1, 1909, to June 30, 1912. Forms of tender, etc., may be obtained on application either from the Controller of Stores, General Post-office, Cape Town, or from the Agent-General for the Cape of Good Hope, 100, Victoria-street, Westminster, London, S.W., at whose respective offices standard sample locks may be inspected.

PAINTING, etc.

JANUARY 13.—**Leeds.**—PAINTING.—Tenders are invited for painting, etc., the exterior of property in Trafalgar-street, Nile-street, etc. The specification may be seen, and forms of tender obtained, at office of Mr. W. T. Lancashire, City Engineer, in the Municipal Buildings.

JANUARY 14.—**Barnstaple.**—PAINTING.—The Guardians of the Poor of the Barnstaple Union invite tenders for colouring, painting, varnishing, and making a few alterations to the interior of the Workhouse Chapel. Specifications may be seen on application to the Master of the Union Workhouse, Barnstaple.

* JANUARY 14.—**Colchester.**—PAINTING AND REPAIRS.—The Territorial Force Association invite tenders

for the repairs and painting the Drill Hall, Stanwell-street, Colchester. See advertisement in this issue for further particulars.

FEBRUARY 2. — **Southport, etc.** — PAINTING. — Lancashire and Yorkshire Railway Directors invite tenders for painting at from Southport (central) to Preston, Wigan to Southport, at Blackburn, and for six other contracts. Specifications, etc., may be obtained on personal application at the Engineer's office, Hunt's Bank, Manchester.

ROADS, SANITARY, AND WATER WORKS.

JANUARY 11. — **Ebbw Vale.** — PLAYGROUND, ETC., WORKS.—Ebbw Vale Education Committee invite tenders for excavating, ballasting, and asphalting the playgrounds at the Rassau Schools, Beaufort, together with certain drainage works and boundary walls. The drawings, etc., may be seen at the office of the Committee's Architect, Mr. Henry Waters, Market-chambers, Ebbw Vale.

JANUARY 11.—**Leeds.**—PAVING, ETC.—Leeds Highways Committee invite tenders for the paving and flagging of streets. Drawings may be seen at the City Engineer's office, Municipal Buildings, Leeds. Forms of tender and bills of quantities may be obtained on application at the Highways Office, 155, Kirkstall-road.

JANUARY 11.—**Leeds.**—PAVING.—The Guardians invite tenders for the taking-up of the old pavers to the main roadway in the Workhouse grounds and for relaying the same as a tar-macadam road. Apply to Messrs. Thomas Winn & Sons, architects, 84, Albion-street, Leeds.

JANUARY 12. — **Boston.**—DRAINAGE.—The Commissioners of Sewers invite tenders for the cleaning out of the Frampton towns drain. Plans, etc., may be seen on application to the surveyor, Mr. Fredk. Bett, of Kirton, near Boston, from whom forms of tender may be obtained.

JANUARY 12.—**Kendal.**—MAKING-UP.—The Corporation invite tenders for the making-up of Hutchinson's-yard, Stricklandgate. Drawings, etc., may be seen, and bills of quantities obtained, on application at the office of Mr. F. W. Oxberry, Borough Engineer and Surveyor, Town Hall, Kendal.

JANUARY 13.—**Rochdale.**—SEWERING.—The Paving, etc., Committee invite tenders for the sewering work required in Whitehall-street, Rochdale. Plans, etc., may be seen, and copies of the quantities and form of tender obtained, at the Borough Surveyor's office, Town Hall.

JANUARY 13. — **Selly Oak.** — DRAINAGE. — King's Norton and Northfield U.D.C. invite tenders for the re-drainage of the houses numbered 11 to 20, Lime-avenue, Dawlish-road, Selly Oak, and 133A, Dawlish-road, Selly Oak. Forms of tender, etc., may be obtained from Mr. A. W. Cross, A.M.Inst.C.E., 23 and 25, Valentine-road, King's Heath.

JANUARY 15. — **Preston.** — PAVING, ETC.—The Corporation invite tenders for levelling, paving, etc., and making good back roads between Hartington-road and Langton-street. Plans, etc., may be seen, and schedule of quantities and form of tender obtained, at the office of the Borough Surveyor, Town Hall, Preston.

JANUARY 16.—**Langley Moor.**—ROAD IMPROVEMENTS.—Improvement of the county main road between Neville's Cross and Langley Moor, comprising the building of concrete retaining walls and road-making, etc. Plans, etc., may now be seen, and bills of quantities obtained, by application to Mr. William Crozier, A.M.Inst.C.E., County Surveyor.

JANUARY 16. — **Padstow.** — SEWER. — (1) The construction of a stoneware pipe sewer; (2) the construction of a piece of road 350 ft. long and 35 ft. wide. Plan, etc., may be seen on application to Mr. R. T. Hocking, Manor Office, Padstow, or at the office of the engineer, Mr. T. H. Andrew, Market Hill, St. Austell.

✱ JANUARY 18. — **Wandsworth.** — MAKING-UP AND PAVING.—The Wandsworth B.C. invite tenders for making-up and paving certain roads in the Borough. See advertisement in this issue for further particulars.

JANUARY 20. — **Bournemouth.** — FOR MAKING-UP OXFORD-AVENUE (FIRST PORTION).—Full particulars, etc., can be obtained of the Borough Engineer, Mr. F. W. Lacey, at whose office drawings can be seen, provided that the sum of 1*l.* 1s. has been previously deposited.

JANUARY 20. — **Bournemouth.** — MAKING-UP. — Bournemouth B.C. invite tenders for making-up Frederica-road. Full particulars, etc., can be obtained of the Borough Engineer, Mr. F. W. Lacey, at whose office drawings can be seen, provided that the sum of 1*l.* 1s. has been previously deposited with him.

JANUARY 20. — **Edinburgh.**—WATERWORKS.—Edinburgh and District Water Trustees invite tenders for cutting tracks for and laying and jointing about two miles of 24-in. cast-iron pipes. Plans may be seen, and copies of the specification, etc., obtained, at the offices of the engineer, Mr. W. A. Tait, C.E., 72A, George-street, Edinburgh, and 9, Victoria-street, Westminster, S.W., on payment of 1*l.* An assistant engineer will meet intending offerers at Duddingston Station on January 13 at 10.15 a.m.

JANUARY 21. — **Cuckfield.**—SEWERAGE AND SEWAGE DISPOSAL WORKS.—The R.D.C. of Cuckfield invite tenders for the construction of about 3,600 lin. yds. (including about 800 lin. yds. in heading) of 9-in. and 5,650 lin. yds. of 8-in. diameter stoneware pipe sewers; about 290 lin. yds. of 9-in., 50 lin. yds. of 8-in., 75 lin. yds. of 6-in., and 225 lin. yds. of 4-in. diameter cast-iron pipe sewers, etc., in the Parishes of Balcombe and Cuckfield Rural. Plans, etc., may be seen, and specifications, etc., may be obtained, on application to Messrs. Strachan & Weeks, civil engineers, 9, Victoria-street, Westminster, London, on payment of a deposit of 3*l.* 3s. by cheque.

JANUARY 21. — **Leeds.** — SEWERAGE WORKS. — The Sewerage Committee invite tenders for the following sewerage works:—(1) Hyde-terrace; (2) Kirkstall-lane; (3) Beeston, near Royds; (4) Coal Hill-lane. Drawings may be seen, and forms of tender, etc., obtained, on application to Mr. W. T. Lancashire, City Engineer, Municipal Buildings, Leeds, on payment of a deposit of 3*l.* 3s.

JANUARY 21. — **Purley and Mitcham.** — PRIVATE STREET WORKS.—Croydon R.D.C. invite tenders for making-up Foxley Hill-road, Purley, and Graham-avenue, Mitcham. Plans, etc., may be seen, and form of tender obtained, on application to Mr. R. M. Chart, Surveyor to the Council, Town Hall, Croydon.

JANUARY 25.—**Penge.**—STREET WORKS.—The U.D.C. of Penge invite tenders for private street works in Challin-street. Plans, etc., may be seen, and copy of the bill of quantity with form of tender obtained, on application to Mr. Herbert W. Longdin, Surveyor, Town Hall, Anerley, S.E., on payment of 2*l.*

STONES, MATERIAL, AND STORES.

JANUARY 6. — **Plymouth.** — MATERIALS.—Plymouth Corporation invite tenders for the supply of goods and materials. Particulars, etc., can be obtained at office of Mr. Frank Howarth, M.Inst.C.E., Water Engineer, Municipal Buildings, Plymouth.

JANUARY 11. — **Bognor.**—GRANITE.—Bognor U.D.C. invite tenders for the supply of 100 tons of 1½-in. broken granite, delivered at Bognor Station. Mr. Henry Layton Staffurth, Clerk, Council Offices, Bognor.

JANUARY 12. — **Boston.** — ROAD MATERIALS. — The Boston R.D.C. invite tenders for the supply of 11,182 tons of granite and 1,286 tons slag (more or less) during 1909. Forms of tender can be obtained from Mr. H. Snaith, Clerk of the Council, 10, New-street, Boston.

JANUARY 12.—**London.**—ARTICLES.—The Secretary of State for India in Council invites tenders for the supply of:—(1) Covered goods wagons; (2) wheels and axles; (3) rails and fishplates; (4) coach screws; (5) 60-ft. spans. The conditions of contract may be obtained on application to the Director-General of Stores, India Office, Whitehall, S.W.

JANUARY 12.—**Meriden.**—STONE.—Meriden R.D.C. invite tenders for the supply of granite, or other similar stone. Mr. A. W. Liggins, Clerk, 11, Priory-street, Coventry.

JANUARY 12.—**Merthyr Tydfil.**—PIPES.—Merthyr Tydfil B.C. invite tenders for the supply of about 40 tons of cast-iron pipes and specials for water mains. Forms of tender, etc., may be obtained upon application to the Borough Engineer, Town Hall, Merthyr Tydfil.

JANUARY 13. — **Bishopthorpe.** — WHINSTONE. — Bishopthorpe R.D.C. invite tenders for the supply of best hard broken 2½-in. whinstone, also for 2¼-in. dross. Mr. Francis Ware, Clerk, 6, New-street, York.

JANUARY 13.—**Lancaster.**—GOODS, ETC.—Lancaster Corporation invite tenders for the supply of fire-clay pipes, grit setts, setts, flags, and curbs (Haslingden rock), Portland cement, and road materials. Forms of tender and further particulars may be obtained on application at the office of Mr. John C. Mount, Borough Surveyor, Lancaster.

JANUARY 13.—**Manchester.**—PAINTS.—The Cleansing Committee of the Manchester Corporation invite tenders for a twelve months' supply of paints. Specifications may be obtained from Mr. R. Williamson, Superintendent of the Cleansing Department, Town Hall, Manchester.

JANUARY 18.—**Plymouth.**—GOODS.—For the supply of goods and materials for one year. Schedules may be obtained on payment of a deposit of 1*l.* in cash for each schedule. Mr. James Paton, Borough Engineer and Surveyor, Municipal Offices, Plymouth.

JANUARY 20.—**Bexley.**—STORES.—Bexley U.D.C. invite tenders for the supply and delivery of best Portland cement, manhole covers and frames, and gulley grates and frames. Specification and form of tender may be obtained upon application to Mr. W. T. Howse, Surveyor to the Council.

JANUARY 20.—**Halifax.**—MATERIALS.—Tenders are invited for the supply of stores and materials. Forms of tender, etc., may be obtained on application to Mr. James Lord, M.Inst.C.E., Borough Engineer, Town Hall, Halifax.

✱ JANUARY 21.—**Lambeth.**—SERVICES AND MATERIALS.—The Lambeth B.C. invites tenders for various services and materials for one year, from March 31. See advertisement in this issue for further particulars.

✱ JANUARY 21. — **West Ham.** — MATERIALS, STORES, ETC.—The West Ham B.C. invite tenders for supply of various materials, stores, etc. See advertisement in this issue for further particulars.

JANUARY 22.—**Spilsby.**—GRANITE AND SLAG.—Spilsby R.D.C. invite tenders for the supply of about 5,000 tons of broken granite, 9,000 tons of broken slag, and 400 tons of slag chippings. Specifications, etc., may be obtained on application to Mr. Wm. Cooke Brakenridge, District Surveyor of Highways, Spilsby, to whom a small sample box of stone must be sent.

JANUARY 23. — **Birmingham.** — MATERIALS. — The Public Works Committee invite tenders for the supply of materials (granite, kerbs, paving blocks, etc.), for one year, ending March 31, 1910. Forms of tender, etc., may be obtained at the City Surveyor's office, Council House, Birmingham, on payment of 1*l.* for each copy.

JANUARY 23.—**Birmingham.**—STORES.—The Public Works Committee invite tenders for the supply of stores for one year, ending March 31, 1910, viz.:—Lias lime, Portland cement, drain pipes, etc. Forms of tender, etc., may be obtained at the City Surveyor's office, Council House, Birmingham, on payment of 1*l.* for each copy.

JANUARY 23.—**Norwich.**—GRANITE.—Norfolk C.C. invite tenders for the supply of granite for the year ending March 31, 1910. Specification and form of tender may be obtained at office of Mr. T. H. B. Heslop, M.Inst.C.E., County Surveyor, The Shirehouse, Norwich, upon receipt of a 2d. stamped addressed large foolscap envelope.

JANUARY 23. — **Sleaford.** — GRANITE. — Sleaford R.D.C. invite tenders for the supply of about 10,000 tons of X and XX granite, and about 10,000 tons of slag and 200 tons of gravel for paths. Specifications, etc., may be had on application to Mr. Edmund Clements, Clerk to R.D.C., 74, Southgate, Sleaford.

JANUARY 26.—**Lambeth.**—GRANITE.—The Guardians invite tenders for the supply of 200 tons of waste and broken pieces of Jersey or Guernsey granite for breaking. Mr. James L. Goldspink, Clerk, Guardians' Board-room and Offices, Brook-street, Kennington.

FEBRUARY 1.—**Bermondsey.**—CONTRACTS.—The B.C. invite tenders for the supply of articles for one year. Forms of tender and other particulars can be obtained on application to Mr. Fredk. Ryall, Town Clerk, Town Hall, Spa-road, S.E.

FEBRUARY 2.—**Hatfield.**—GRANITE AND SLAG.—Hertfordshire C.C. invite tenders for the supply of broken granite and slag. Forms of tender and condition of contract may be obtained on application at office of Mr. Urban A. Smith, M.Inst.C.E., County Surveyor, County Surveyor's office, Hatfield, or will be sent through the post upon receipt of a stamped addressed foolscap envelope.

Public Appointments.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
•WORKING SURVEYOR	Newhaven U.D.C.	110*l.* per annum	Jan. 16
•CLERK (VALUATION AND RATING DEPARTMENT)	Corporation of London	250*l.* per annum	do.
•CLERK (VALUATION AND RATING DEPARTMENT)	Corporation of London	150*l.* per annum	do.

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale
•DEALS, BATTENS, ETC.—Great Hall, Winchester House, Old Broad-street, E.C.	Churchill & Sims	Jan. 13
•FREEHOLDS, KNIGHTSBRIDGE, S.W.—At the Mart	Gillows (Waring & Gillow, Ltd.)	Feb. 11

PRICES CURRENT.—*Continued from page 46.*

STONE (*continued*).

YORK STONE—*Robin Hood Quality.*

	s.	d.	
Scappled random blocks	2	10	per ft. cube, deld. rly. dep.
6 in. sawn two sides landings to sizes (under 40 ft. super.)	2	3	per ft. super. »
6 in. rubbed two sides ditto, ditto	2	6	» »
3 in. sawn two sides slabs (random sizes)	0	11½	per ft. cube. »
2 in to 2½ in. sawn one side slabs (random sizes)	0	7½	» »
1½ in. to 2 in. ditto, ditto	0	6	» »
HARD YORK—			
Scappled random blocks	3	0	» »
6 in. sawn two sides landings to sizes (under 40 ft. super.)	2	8	per ft super. »
6 in. rubbed two sides ditto	3	0	» »
3 in. sawn two sides slabs (random sizes)	1	2	» »
2 in. self-faced random flags	0	5	» »

SLATES.

In. In.	£	s	d.	
20×10 best blue Bangor	13	2	6	per 1000 of 1200 at r.d.
20×12 » »	13	17	6	» »
20×10 first quality ,,	13	0	0	» »
20×12 » »	13	15	0	» »
16×8 » »	7	5	0	» »
22×10 best blue Portmadoc	12	12	6	» »
16×8 » »	6	12	6	» »
20×10 best Eureka unfading green	15	17	6	» »
20×12 » »	18	7	6	» »
18×10 » »	13	5	0	» »
16×8 » »	10	5	0	» »
20×10 permanent green	11	12	6	» »
18×10 » »	9	12	6	» »
16×8 » »	6	12	6	» »

TILES.

	s.	d.	
Best plain red roofing tiles	42	0	per 1000, at rly depôt.
Hip and Valley tiles	3	7	per doz. »
Best Broseley tiles	50	0	per 1000 »
Do. Ornamental tiles	52	6	» »
Hip and Valley tiles	4	0	per doz. »
Best Ruabon red, brown, or brindled do. (Edwards)	57	6	per 1000 »
Do. Ornamental do.	60	0	» »
Hip tiles	4	0	per doz. »
Valley tiles	3	0	» »
Best Red or Mottled Staffordshire do. (Peakes)	51	9	per 1000 »
Do. Ornamental do.	54	6	» »
Hip tiles	4	1	per doz. »
Valley tiles	3	8	» »
Best "Rosemary" brand plain tiles	48	0	per 1000 »
Best Ornamental tiles	50	0	» »
Hip tiles	4	0	per doz. »
Valley tiles	3	8	» »
Best "Hartshill" brand plain tiles, sand-faced	50	0	per 1000 »
Do. pressed	47	6	» »
Do. Ornamental do.	50	0	» »
Hip tiles	4	0	per doz. »
Valley tiles	3	6	» »
Staffordshire (Hanley) Reds or Brindled tiles	42	6	per 1000 »
Hand-made sand-faced	45	0	» »
Hip tiles	4	0	per doz. »
Valley tiles	3	6	» »

WOOD.

BUILDING WOOD.	At per standard. £	s.	d.	£	s.	d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in	13	10	0	15	0	0
Deals: best 3 by 9	13	0	0	14	0	0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	11	0	0	12	0	0
Battens: best 2½ by 6 and 3 by 6	0	10	0	less than 7 in. and 8 in.		
Deals: seconds	1	0	0	less than best		
Battens: seconds	0	10	0	,,		
2 in. by 4 in. and 2 in. by 6in.	9	0	0	10	0	0
2 in. by 4½ in. and 2 in. by 5 in.	8	10	0	9	10	0
Foreign Sawn Boards—						
1 in. and 1¼ in by 7 in.	0	10	0	more than battens		
¾ in.	1	0	0	,,		
Fir timber: best middling Danzig or Memel (average specification)	At per load of 50 ft. 4	10	0	5	0	0
Seconds	4	0	0	4	10	0
Small timber (8 in. to 10 in.)	3	12	6	3	15	0
Small timber (6 in. to 8 in.)	3	0	0	3	10	0
Swedish balks	2	10	0	3	0	0
Pitch-pine timber (30 ft. average)	4	0	0	4	15	0
JOINERS' WOOD.	At per standard.					
White Sea: first yellow deals, 3 in. by 11 in.	24	0	0	25	0	0
3 in. by 9 in.	22	0	0	23	0	0
Batten 2½ in. and 3 in. by 7 in.	16	10	0	18	0	0
Second yellow deals 3 in. by 1 in.	18	10	0	20	0	0
» » 3 in. by 9 in.	17	10	0	19	0	0
Battens, 2½ in. and 3 in. by 7 in.	13	10	0	14	10	0
Third yellow deals, 3 in. by 11 in. and 9 in.	13	10	0	15	0	0
Battens, 2½ in. and 3 in. by 7 in.	11	0	0	12	0	0
Petersburg first yellow deals, 3 in. by 11 in.	21	0	0	22	10	0
Do. 3 in. by 9 in.	18	0	0	19	10	0
Battens	13	10	0	15	0	0
Petersburg second yellow deals, 3 in. by 11 in.	16	0	0	17	0	0
Do. 3 in. by 9 in.	14	10	0	16	0	0
Battens	11	0	0	12	10	0
Third yellow deals, 3 in. by 11 in.	13	0	0	14	0	0
Do. 3 in. by 9 in.	12	10	0	14	0	0
Battens	10	0	0	11	0	0
White Sea and Petersburg—						
First white deals, 3 in. by 11 in.	14	10	0	15	10	0
» » 3 in. by 9 in.	13	10	0	14	10	0
Battens	11	0	0	12	0	0

WOOD (*continued*).

JOINERS' WOOD (*continued*)—	At per standard. £	s.	d.	£	s.	d.
Second white deals, 3 in. by 11 in.	13	10	0	14	10	0
» » 3 in. by 9 in.	12	10	0	13	10	0
Battens	10	0	0	11	0	0
Pitch-pine: deals	18	0	0	21	0	0
Under 2 in. thick extra	0	10	0	1	0	0
Yellow pine—First, regular sizes	44	0	0	upwards.		
Oddments	32	0	0	»		
Seconds, regular sizes	33	0	0	»		
Oddments	28	0	0	»		
Kauri Pine—Planks, per ft. cube	0	3	6	0	5	0
Danzig and Stettin Oak logs—						
Large, per ft. cube	0	3	0	0	3	9
Small » »	0	2	6	0	2	6
Wainscot Oak Logs, per ft. cube	0	5	6	0	6	0
Dry Wainscot Oak, per ft. sup. as inch	0	0	8½	0	0	9½
¾ in. do. do	0	0	7	—		
Dry Mahogany—Honduras, Tabasco, per ft. super. as inch	0	0	9	0	1	0
Selected, Figury, per ft. super. as inch	0	1	6	0	2	6
Dry Walnut, American, per ft. super, as inch	0	0	10	0	1	0
Teak per load	17	0	0	22	0	0
American Whitewood Planks, per ft. cube	0	4	0	0	5	0
Prepared Flooring, etc.—	Per square.					
1 in. by 7 in. yellow, planed and shot	0	13	6	0	17	0
1 in. by 7 in. yellow, planed and matched	0	14	0	0	18	0
1¼ in. by 7 in. yellow, planed and matched	0	16	0	1	0	0
1 in. by 7 in. white, planed and shot	0	12	0	0	14	6
1 in. by 7 in. white, planed and matched	0	12	6	0	15	0
1¼ in. by 7 in. white, planed and matched	0	15	0	0	16	6
¾ in. by 7 in. yellow matched and beaded or V-jointed brds.	0	11	0	0	13	6
1 in. by 7 in. » »	0	14	0	0	18	0
¾ in. by 7 in. white » »	0	10	0	0	11	6
1 in. by 7 in. » »	0	12	9	0	15	0
6 in. at 6d. to 9d. per square less than 7in.						

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton. £	s.	d.	£	s.	d.
Rolled Steel Joists, ordinary sections	7	0	0	7	10	0
Compound Girders, ordinary sections	9	0	0	10	0	0
Steel Compound Stanchions	11	0	0	12	0	0
Angles, Tees, and Channels, ordinary sections	9	0	0	10	0	0
Flitch Plates	9	0	0	9	10	0
Cast Iron Columns and Stanchions including ordinary patterns	7	10	0	8	10	0

METALS.

	Per ton, in London. £	s.	d.	£	s.	d.
IRON—						
Common Bars	8	10	0	9	0	0
Staffordshire Crown Bars, good merchant quality	8	15	0	9	5	0
Staffordshire "Marked Bars"	10	10	0	—		
Mild Steel Bars	8	15	0	9	5	0
Hoop Iron, basis price	9	5	0	9	10	0
» » Galvanised	17	0	0	—		
(*And upwards, according to size and gauge.)						
Sheet Iron Black—						
Ordinary sizes to 20 g.	9	15	0	—		
» » 24 g.	10	15	0	—		
» » 26 g.	12	5	0	—		
Sheet Iron, Galvanized, flat, ordinary quality—						
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15	0	0	—		
Ordinary sizes to 22 g. and 24 g.	15	10	0	—		
» » 26 g.	14	10	0	—		
Sheet Iron, Galvanized, flat, best quality—						
Ordinary sizes to 20 g.	18	0	0	—		
» » 22 g. and 24 g.	18	10	0	—		
» » 26 g.	20	0	0	—		
Galvanised Corrugated Sheets—						
Ordinary sizes, 6 ft. to 8 ft. 20 g.	14	10	0	—		
» » 22 g. and 24 g.	14	15	0	—		
» » 26 g.	16	5	0	—		
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. by 20 g. and thicker	12	0	0	—		
Best Soft Steel Sheets, 22 g. & 24 g.	13	0	0	—		
» » » 26 g.	15	0	0	—		
Cut Nails, 3 in. to 6 in.	10	10	0	11	0	0
(Under 3 in., usual trade extras.)						

LEAD, &c.

	Per ton, in London. £	s.	d.	£	s.	d
LEAD—Sheet, English, 3lb. and up.	16	10	0	—		
Pipe in coils	17	0	0	—		
Soil pipe	19	0	0	—		
Compo pipe	20	0	0	—		
ZINC—Sheet—						
Vielle Montagne ton	26	10	0	—		
Silesian	26	5	0	—		
COPPER—						
Strong sheet per lb.	0	1	0	—		
Thin » »	0	1	1	—		
Copper nails »	0	0	10	—		
Copper wire »	0	0	10	—		
BRASS—						
Strong Sheet »	0	0	11	—		
Thin »	0	1	0	—		
TIN—English Ingots »	0	1	5	—		
SOLDER—Plumbers »	0	0	7	—		
Tinmans »	0	0	9½	—		
Blowpipe »	0	1	0	—		

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

15 oz. thirds	2½d. per ft. delivered.
» fourths	1½d. » »
21 oz. thirds	3d. » »
» fourths	2½d. » »
26 oz. thirds	4d. » »
» fourths	3d. » »
32 oz. thirds	4½d. » »
» fourths	4½d. » »
Fluted Sheet, 15 oz.	3½d. » »
» 21 oz.	4½d. » »

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

⅛ Hartley's	2½d. per ft. delivered.
⅜ »	2¾d. » »
½ »	2¾d. » »
Figured, Oxford Rolled and "Oceanic" Glass, white	3½d. » »
» » tinted	5d. » »
OTHER GLASS—	
"Arctic" Glass, white	3½d. » »
» » tinted	5d. » »
» » Ruby and opalescents	1s. » »

OILS, &c.

		£	s.	d.
Raw Linseed Oil in pipes	per gallon	0	1	11
» » ,, in barrels	»	0	2	0
» » ,, in drums	»	0	2	3
Boiled ,, ,, in barrels	»	0	2	3
» » ,, in drums	»	0	2	6
Turpentine in Barrels	»	0	2	6
» in drums	»	0	2	8
Genuine Ground English White Lead	per ton	21	0	0
Red Lead, Dry	»	20	0	0
Best Linseed Oil Putty	per cwt.	0	7	0
Stockholm Tar	per barrel	1	12	0

VARNISHES, &c.

	Per gallon.
Fine Pale Oak Varnish	0 8 0
Pale Copal Oak	0 10 6
Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 0
Superfine Hard-drying Oak, for seats of Churches	0 14 6
Fine Elastic Carriage	0 12 0
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Mapel	0 16 0
Finest Pale Durable Copal	0 18 0
Extra Pale French Oil	1 1 0
Eggshell Flating Varnish	0 18 0
White Pale Enamel	1 4 0
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 6
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 0
Berlin Black	0 16 0
Knotting	0 10 9
French and Brush Polish	0 10 6

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursday.* [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcement of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100*l.*, unless in some exceptional cases and for special reasons.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

ABERDEEN.—Accepted for additions and alterations to the City Hospital, for the Town Council. Mr. J. Rust, City Architect, Aberdeen:—

Masons: Leslie Smith & Son, Aberdeen	£4,773 0 0
Carpenters: G. Jamieson, Aberdeen	3,000 0 0
Plumbers: J. Blinkie & Sons, Aberdeen	1,682 0 0
Plasterers: J. Brennochie & Sons, Aberdeen	915 1 0
Heating: J. Blinkie & Sons, Aberdeen	658 10 0
Painters: Gordon & Nott, Aberdeen	498 0 0
Slaters: C. Maitland & Sons, Aberdeen	361 0 0
Iron: J. Sangster, Aberdeen	123 18 6

[Architect's estimate, £12,000.]

ASFORDBY.—For Council school, for Leicestershire County Council Education Committee:—

J. R. Deacon	£4,695 0	Scurr, Jowett, & Co.	£4,376 0
W. Burnett	4,634 0	Hockley & Co.	4,566 0
E. Haycock & Sons	4,340 0	C. E. Frisby	4,547 0
E. Fox	4,325 0	Griffin Bros.	4,436 0
E. Clarke	4,262 0	W. Robinson	4,431 14
T. & H. Denman	4,170 0	J. Cole & Sons	4,397 0
W. Corah & Son, Loughborough*	4,123 0	A. B. Moss	4,380 12

BARGOED (Glam.).—For the erection of a higher elementary school, for the Glamorgan Education Committee. Mr. D. Pugh-Jones, F.S.I., County Architect, Cardiff:—

T. F. Howells, Caerphilly* £7,819 1 2

BRIDGEND.—For the erection of a temporary P.T. centre, for the Glamorgan Education Committee. Mr. D. Pugh-Jones, County Architect (E. Div.), Cardiff:—

P. Gaylard, Bridgend, Glam.* £400 0 0

BURSLEM.—For 800 lineal yds. of storm-water pipe sewer, from Nile-street to the junction of Park-road with Moorland-road, for the Corporation. Mr. F. Bettany, Borough Engineer and Surveyor, Municipal Offices, Burslem:—

J. Taylor & Son, Basford, Stoke-on-Trent* £976 6 0

BUXTED.—For sewerage and sewage-disposal works, for Uckfield Rural District Council. Mr. J. Taylor Surveyor to the Council, Uckfield:—

Rowlingson & Co.	£3,368 1 10
Collingwood & Co.	2,641 15 3
R. H. R. Neal, Ltd.	2,539 16 4
Edwards & Co.	2,464 19 9
J. Jackson	2,412 14 11
T. Parker	2,320 7 7
T. Watson	2,240 0 0
H. V. Smith & Co.	2,043 18 10
S. Carey	2,024 10 3
Wort & Way	1,996 19 10
Bate & Co.	1,974 10 0
F. H. Bingham	1,960 19 11½
W. A. McKellar	1,899 0 0
H. Young	1,805 8 9
G. G. Rayner	1,759 9 4½
Hutchinson & Co., St. Leonards*	1,746 16 10

CHELMSFORD.—For widening of carriageway, relaying of wood-paving, etc., in Duke-street., for the Town Council. Mr. Cuthbert Brown, A.M.I.C.E., Borough Surveyor. Qantities by Borough Surveyor:—

Acme Flooring and Paving Co. (1904), Ltd.	£416 16 0
Wilson, Border, & Co.	321 12 6
W. Peters	303 19 4
Improved Wood Pavement Co., Ltd.	292 2 6
R. A. Bonnett	270 8 3
W. Griffiths & Co., Ltd.	268 17 10
H. Burnham, 57, Ashley-street, Birmingham*	207 10 6

COEDPENMAEN.—For street works, portion of Bassett-street, for Pontypridd Urban District Council. Mr. P. R. A. Willoughby, Engineer and Surveyor, Municipal-buildings, Pontypridd:—

R. Webb & Sons, Abercynon*	£399 2 3

CWMFELINFACH (Mon.).—For erecting seventeen houses on the Maindee-road, for the Trustees of the Pioneer Building Club. Mr. J. W. Aldiss, architect and surveyor, Newbridge, Mon.:—

S. Edwards	£4,049 10	T. James	£3,663 10
H. Williams & Co.	4,037 10	W. Phillips, Ynysddu, Mon.*	3,655 0
H. J. Herbert & Co.	3,700 0	A. J. Bell	3,100 0

DARTMOUTH.—For construction of retaining-wall, steps, filling-in to casements of old buildings, Southtown, for the Corporation. Mr. T. W. Joyce, Borough Surveyor, Dartmouth:—

E. P. Bovey	£314 0	R. C. Pillar	£252 0
F. W. Gullett	305 0	J. Back, Dartmouth*	227 0
R. Watts	263 15		

DUNTON.—For enlargement of Bassett School, for the Leicestershire County Council Education Committee:—

G. L. Martin	£916 0 0	E. W. Garlick	£854 10 0
E. Haycock & Sons	900 0 0	E. Lord	840 0 0
King & Ridley	885 0 0	C. Cooke	828 6 0
H. H. Garlick	885 0 0	J. Rudkin & Sons	808 10 0
J. Cole & Sons	875 5 0	F. Oldershaw	781 10 0
P. Rourke	865 0 0	W. Potter, Blaby*	780 9 6
E. Fox	859 19 0		

FRAMLINGHAM.—For 200 yds. of brick pipe drain, for Plomesgate Rural District Council:—

Mallows Bros., Framlingham*	£44 10 6

GABALFA (Llandaff).—For private street improvement works, for Llandaff and Dinas Powis Rural District Council. Mr. J. Holden, A.M.Inst.C.E., Park House, 20, Park-place, Cardiff:—

J. Rutter	£926 1 8
E. Osmond & Sons	822 19 3
T. R. Williams	810 0 5
E. Rees, The Elms, Whitchurch*	777 11 1

GELLYGAER (Glam.).—For additions to the Council school, for the Glamorgan Education Committee. Mr. D. Pugh-Jones, County Architect (E. Div.). Cardiff:—

Davies & Lloyd, Senghenydd*	£1,975 0 0

GUILDFORD.—For foundations for refuse destructor plant, for the Town Council. Mr. C. G. Mason, C.E., Borough Engineer, Tun's Gate, Guildford:—

R. Smith	£2,024 0 0
Tribe & Robinson	1,897 0 0
James & Co.	1,856 2 10
A. G. Osenten	1,846 13 0
Lindfield & Son	1,676 12 0
Higlett & Hammond	1,615 0 0
G. A. Franks	1,575 17 6
Manlove, Alliott, & Co., Nottingham* ‡	1,572 6 8
A. Streeter & Co.	1,512 11 1

‡ These contractors are erecting the destructor.

HANLEY.—For the erection of new shop premises, Market-square, Hanley, and for alterations to the existing premises, for Messrs. M. Huntbach & Co., Ltd. Messrs. R. Scrivener & Sons, architects, etc., Hanley:—

Tompkinson & Beteley	£3,391	W. Grant & Sons	£3,315
C. Cornes & Son	3,317	G. Ellis	3,285
		T. Godwin, Hanley*	3,037

HENGOED (Glam.).—For providing and fixing laboratory and lecture-room fittings at the Intermediate school, for the Glamorgan Education Committee. Mr. D. Pugh-Jones, County Architect (E. Div.), Cardiff:—

Bennett Furnishing Co., London*	£363 1 0

HUNGERFORD.—For sewerage works, for the Rural District Council. Mr. H. Howard Humphreys, Engineer, 28, Victoria-street, Westminster, S.W. Quantities by Engineer:—

D. Bell & Co.	£12,589 6 10	J. Riley	£10,506 0 11
G. Bell & Co., Ltd.	12,117 15 0	J. O. M. Dixon	10,477 7 7
E. Ireland	11,987 0 0	Wort & Way	10,386 13 2
A. G. Osenton	11,803 0 0	H. Ash	10,157 0 0
Pedrette & Co.	11,631 19 0	J. H. MacDonald	10,010 0 0
MacDonald & Deacon	11,190 0 0	Collier & Catley, Ltd., St. Mary's Butts, Reading*	9,543 0 0
F. Osenton	10,908 14 11		
T. Watson	10,883 0 0		

NORTHAMPTON.—For building a new isolation hospital at Berrywood Asylum, for the Committee of Visitors of the Northamptonshire County Council. Mr. W. B. Partington, Surveyor of Works, Berrywood, Northampton. Quantities by Surveyor:—

R. Carlyle	£2,903 0	E. Green	£2,637 0
T. Higgs	2,897 0	J. Martin	2,570 0
R. Cosford	2,849 0	T. Hickman	2,560 0
W. Higgins	2,718 0	W. Heap	2,497 0
E. D. Sharman & Son	2,700 0	W. W. Webster	2,487 15
G. F. Sharman	2,698 0	G. L. Fisher	2,342 0
A. P. Hawtin	2,674 0	W. W. Roberts & Co., Ltd., Weedon*	2,285 10
A. J. Chown	2,663 0		

PONTYPRIDD.—For street works, approach roads, to new Berw bridge, for the Urban District Council. Mr. P. R. A. Willoughby, Engineer and Surveyor, Pontypridd:—

R. Webb & Sons, Abercynon*	£546 12 0

PONTYPRIDD.—For street works, lane leading from Leyshon-street to Llantrisant-road, for the Urban District Council. Mr. P. R. A. Willoughby, Engineer and Surveyor, Municipal Buildings, Pontypridd:—

H. Murray, Pontypridd*	£49 9 0

PONTYPRIDD.—For street works leading from Coedpenmaen-road to Thurston-road, for the Urban District Council. Mr. P. R. A. Willoughby, Engineer and Surveyor, Municipal-buildings, Pontypridd:—

R. Webb, Abercynon*	£132 15 2

PORTH (Glam.).—For the erection of a temporary P.T. centre, for the Glamorgan Education Committee. Mr. D. Pugh-Jones, County Architect, Cardiff:—

Ginger, Lee, & Co., Manchester*	£869 0 0
Footing only.	
C. Jenkins & Son, Porth*	£360 0 0

TRELEWIS (Glam.).—For addition to the Council school, for the Glamorgan Education Committee. Mr. D. Pugh-Jones, County Architect (E. Div.), Cardiff:—

S. Shail, Llandaff*	£1,155 0 0

Ham Hill Stone.
Doulting Stone.
Portland Stone.

The Ham Hill and Doulting Stone Co., Limited
(Incorporating the Ham Hill Stone Co. and C. Trask & Son, The Doulting Stone Co.).
Norton, Stoke-under-Ham, Somerset.
London Agent:—Mr. E. A. Williams, 16, Craven-street, Strand.

Asphalte.—The Seyssel and Metallic Lava Asphalte Company (Mr. H. Glenn), Office, 42, Poultry, E.C.—The best and cheapest materials for damp courses, railway arches, warehouse floors, flat roofs, stables, cow-sheds and milk-rooms, granaries, tun-rooms, and terraces. Asphalte Contractors to the Forth Bridge Co.

SPRAGUE & CO., Ltd.,
PHOTOLITHOGRAPHERS,
4 & 5, East Harding-street,
Fetter-lane, E.C.

ALEX. FINDLAY & CO., LTD.,
MOTHERWELL, SCOTLAND.
STEEL ROOF and BRIDGE BUILDERS, STRUCTURAL ENGINEERS.
CONTRACTORS FOR THE
MAIN BUILDINGS AND GREAT STADIUM
For the FRANCO-BRITISH EXHIBITION, London, 1908.
LONDON OFFICE: 9, VICTORIA STREET, S.W.

GRICE & CO., Ltd., STONE MERCHANTS.
ADDISON WHARF, 191, Warwick Rd., KENSINGTON.
Building & Monumental Stone
A LARGE STOCK OF BEST
CAEN Stone & Alabaster For HOME TRADE and EXPORT
in Block, Slab, and Scantling.

J. J. ETRIDGE, Jr.
SLATE MERCHANT,
SLATER & TILER.
Penrhyn-Bangor,
Oakeley-Portmadoc.
BEST WORK ONLY.
Red Sandfaced Nibbed Roofing Tiles always in Stock.
Applications for Prices, etc., to
BETHNAL GREEN SLATE WORKS,
Bethnal Green, London, E.

ASPHALTE
For Horizontal & Vertical Damp Courses.
For Flat Roofs, Basements, & other Floors.
The best materials and workmanship are supplied by
THE
French Asphalte Co.,
Whose name and address should be inserted in all specifications.
For estimates, quotations, and all information apply at the Offices of the Company,
5, LAURENCE POUNTNEY HILL,
CANNON STREET, E.C.

COPPER ROOFING
Zinc Roofing
"DROP DRY" GLAZING.
The Most Efficient and Economical System in the Kingdom.
DESIGNS and ESTIMATES FREE on application.
Telegrams: "COURTEOUS, LONDON."
F. BRABY & CO., Ld.,
Telephone: North 2100 (3 lines).
Chief Offices: 352-364, EUSTON ROAD, LONDON, N.W.
Works: LONDON, LIVERPOOL, BRISTOL GLASGOW, FALKIRK, BELFAST, and DUBLIN.